COURSE DATA

Data Subject

Code	33270
Name	Logic
Cycle	Grade
ECTS Credits	6.0
Academic year	2023 - 2024

Study (s)

Degree	Center	Acad. year	Period
1012 - Degree in Philosophy	Faculty of Philosophy and Educational Sciences	2	First term

Subject-matter

Degree	Subject-matter	Character
1012 - Degree in Philosophy	15 - Logic and theory of argumentation	Obligatory

Coordination

Name	Department
VALOR ABAD, JORDI	359 - Philosophy

SUMMARY

This course, taught in the second year of the Philosophy degree, offers an introduction to set theory, propositional logic and first-order logic with identity. The study of these disciplines allows us to understand the meaning of linguistic expressions, such as veritative functions and quantifiers, which are fundamental for the articulation of reasoning and for our understanding of the notions of valid argument, logical consequence or deduction. The use of formal languages and basic tools of set theory will help us to provide precise definitions of these notions.

PREVIOUS KNOWLEDGE

Relationship to other subjects of the same degree

There are no specified enrollment restrictions with other subjects of the curriculum.

Other requirements

There are no specified enrollment restrictions with other subjects of the curriculum

OUTCOMES

1004 - Degree in Philosophy

- 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.

- Be able to apply knowledge to work in a professional manner and have competences for preparing and defending arguments and for solving problems within the field of study.

- Students must have the ability to gather and interpret relevant data (usually in their field of study) to make judgements that take relevant social, scientific or ethical issues into consideration.

- Students must be able to communicate information, ideas, problems and solutions to both expert and lay audiences.

- Students must have developed the learning skills needed to undertake further study with a high degree of autonomy.

- Capacidad de comunicación profesional oral y escrita en las lenguas propias de la Universitat de València.

- Acquire the capacity to pose and solve problems, as well as to make decisions, in a limited time.

- Be able to convey information, ideas, problems and solutions to others (experts or not).

- Have critical and self-critical capacity.

- Know how to work in a team avoiding gender discrimination.

- Be able to handle the applications of information and communication technologies.

- Be able to apply knowledge to practice.

- Develop innovation and creativity.

- Be able to take on leadership, coordination and representation tasks.

- Be competent in the philosophical study of particular areas of research and human praxis, such as mind, knowledge, language, technology, science, society, culture, ethics, politics, law, religion, literature, arts and aesthetics, avoiding androcentric biases.

- Acquire a basic knowledge of the problems, texts and methods that philosophy has developed throughout its history and recognise possible androcentric biases.

- Identify the fundamental issues that underlie any type of debate.

- Identify and evaluate clearly and rigorously the arguments presented either in texts or orally.

- Be agile and efficient managing various sources of information: bibliographical, electronic and others.

- Appreciate autonomy and independence of judgement.

- Recognise human fallibility.

LEARNING OUTCOMES

Learning outcomes are considered to be related to the didactic proposal manifested in

(1) the basic descriptors of the subject,

(2) the skills to be developed,

(3) the formative activities, linked to the teaching methodology,

(4) the evaluative systems.

According to it, it is expected that students

(1) know the working concepts, theories and methods most important in the field of Logic, to a graduate level,

(2) know how to apply them to the various aspects of life, in general, and of philosophy, in particular,

(3) know how to expand them through research and analysis of new problems,

(4) know how to transmit and disseminate them at all levels, and

(5) be able to undertake further studies.

DESCRIPTION OF CONTENTS

1. Set theory

Axioms of Zermelo-Fraenkel set theory. Fundamental notions, operations and constructions of set theory. Finite and infinite sets, ordinal and cardinal numbers.

2. Propositional logic

Syntax and semantics of propositional languages. Deductive calculus for propositional languages. The consequence operator and its properties. The properties of soundness, adequacy, completeness, compactness and decidability. Theories and models.

3. First order logic with identity

Syntax and semantics of first-order languages with identity. Deductive calculus for first-order languages. The consequence operator and its properties. The properties of soundness, adequacy, completeness, compactness and undecidability. Theories and models.

4. Non-standard logics

Intuitionistic logic as an example of non-bivalent logic. Modal operators and accessibility relations between possible worlds: modal logics as examples of non-extensional logics.

WORKLOAD

ACTIVITY	Hours	% To be attended
Theory classes	30,00	100
Classroom practices	15,00	100
Tutorials	5,00	100
Attendance at events and external activities	5,00	0
Development of group work	0,00	0
Development of individual work	20,00	0
Study and independent work	20,00	0
Readings supplementary material	10,00	0
Preparation of evaluation activities	30,00	0
Preparation of practical classes and problem	15,00	0
TOTAL	150,00	

TEACHING METHODOLOGY

1. Lectures (master classes with the possible participation of the students).

Credits: 1,20

Methodology of teaching and learning: Lecturer's exposition, with the possible participation of the students.

Competences to acquire: 1-3, 5-10, 13, 16, 17, 19, 21, 22.

2. Practical classes (participative, searching connections between theory and practice: case studies and simulations, problems resolutions, texts and documents analysis).

Credits: 0,60

Methodology of teaching and learning: Participation of the students under the teacher guidance.

Competences to acquire: 1-3, 6-8, 10-13, 15-19, 21, 22.

3. Essay

Credits: 0,80

Methodology of teaching and learning: Personal interviews to agree on the independent work of the student , the requirements of its elaboration and to follow its evolution.

Competences to acquire: 1-10, 12-14, 16, 17.

4. Supervisions (individual or in small groups)

Credits: 0,20

Methodology of teaching and learning: Personal interviews or online questions (through "Aula Virtual", e-mail, blogs, etc.)

Competences to acquire: all of them in general; especially 6, 9, 12, 13, 16.

5. Complementary activities: attendance to conferences, courses and other cultural, academic or scientific activities related with the knowledge area.

Credits: 0,20

Methodology of teaching and learning: Possible participation of the students and the writing of an essay or report about the topic.

Competences to acquire: all of them in general; especially 9, 10, 13, 16, 18.

6. Revision, preparation of tasks and realization of the tests.

Credits: 2,40

Methodology of teaching and learning: independent work.

Competences to acquire: all of them in general; especially 2, 3, 5, 6, 12, 16,

EVALUATION

The evaluation of the course will take into account the contents of the theoretical classes (up to 70% of the final grade) and the practical classes (up to 30% of the final grade). The evaluation of the contents will be carried out according to one of the following two methods (the teacher of the course will indicate at the beginning of the course which method will be used):

1) A single written test containing questions of two types: theoretical and practical.

2) Two tests: a final written test related to the content of the theoretical classes and a set of exercises to be carried out throughout the course related to the content of the practical classes.

Fraudulent performance in the evaluation tests and plagiarism in any evaluation work will be considered in accordance with the ACGUV 108/2017 and ACGUV 123/2020 regulation. The use of technologies (including AI), which is not previously authorised by the teaching staff, to create assessment materials will mean that these will not be considered as self-authored and will be treated according to current regulations.

REFERENCES

Basic

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  Falguera, J. L. y Martínez, C. (1999). Lógica clásica de primer orden. Madrid: Trotta.

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Additional

- Agler, D. (2012). Symbolic Logic. Syntax, Semantics, and Proof. New York: Rowman & Littlefield.

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  Tomassi, P. (1999). Logic. London: Routledge.