SAGRADO
Universidad del Sagrado Corazón

SYLLABUS

TITLE: Logic
CODE: FIL 101
PREREQUISITE: N/A
CREDITS: 3 credits | 45 contact hours | 1 term

DESCRIPTION

This course defines the main concepts of Logic and describes its evolution and importance in the history of Philosophy. Students will apply its methodology to the analysis of the different types of reasoning as they are constructed in natural language. Likewise, the basic elements of syllogistics and symbolization in the propositional calculus of first-order logic are presented. The course also develops the introductory level of information skills.

JUSTIFICATION

The abundance of information, the importance of the media, and the rapid changes in our contemporary world require an appropriate and diversified preparation that provides the necessary tools to critically analyze the elements that make up this excess of information and thus serve as a foundation for knowledge. The teaching of Logic can equip students with these tools needed to exercise a balanced analysis and progressively achieve reasonable and accurate knowledge applicable to daily life and cognitive processes.

COMPETENCES

The course develops the following competences in students:
- **Critical questioning**
- **Communication**
- **Ethical sense and social justice**

OBJECTIVES

After completion of the course, students will be able to:
1. Define the basic logical concepts.
2. Distinguish and evaluate authentic and apparent reasoning.
3. Use natural and symbolic language in a precise way.
4. Estimate the value of reasoned dialogue for the clarification of truth and the

elucidation of controversies.
5. Develop elementary research on topics directly related to logical thinking and analysis.
6. Recognize the ethical consequences in argumentation systems and procedures
7. Effectively and efficiently access information related to logic as a philosophical discipline.
8. Evaluate information according to criteria of authority, objectivity and timeliness.
9. Detect data coherence, contradiction, analogy, and inference.
10. Ground the argument with reasons that may be convincing to any intelligent interlocutor.

CONTENTS

I. Terminology of logic
    A. Concepts of coherence
    B. Premises and conclusions
    C. Deduction and induction
    D. Truth and falsehood
    E. Validity, invalidity, and inconsistency
II. Introduction to information skills
    A. Importance of information skills in university education
    B. Methods of accessing and searching for philosophical information in non-cybernetic media.
    C. Methods of accessing and searching for philosophical information in cybernetic media.
    D. Methods and elements to critically evaluate information resources.
III. Functions of language
    A. Relationship between words and ideas
    B. Language and metalanguage
    C. Truth and falsehood as metalanguage
IV. Definition and description
    A. Connotation and denotation
    B. Techniques and rules of definition
V. Informal fallacies
    A. Fallacies of relevance
    B. Fallacies of ambiguity
VI. Propositions and classes
    A. Square of opposition
    B. Other immediate inferences: Conversion, Obversion, and Contraposition
    C. Venn symbols and diagrams for reasoning analysis
VII. Syllogism

A. Structure of a syllogism
B. Medieval syllogistic technique
C. Venn diagrams for determining validity and invalidity
D. Rules and formal fallacies
VIII. Other kinds of deductive reasoning
A. Enthymemes, sorites, disjunctive, hypothetical, and dilemmatic
IX. Symbolization of logical analysis
A. Syntax and semantics of propositional calculation
B. Connectives and reasoning structures
C. Truth tables and their use in reasoning analysis
X. Basic elements of inductive logic
A. Structure of analogical reasoning
B. Mill's methods for induction analysis
C. Conceptions of probability
D. Calculation of probabilities
E. Expected value
XI. Metaphysical and epistemological questions about logic
A. Monism, pluralism, and instrumentalism
B. Traditional logic and fallibilism
C. Modal systems and logic of relevance
D. Polyvalent logics and the constraints of classical logic
E. Functional non-truthful divergent logics: degrees of truth
XII. Logic and everyday life
A. Argumentation and the social development of the subject
B. Logic and the development of critical capacity

METHODOLOGY

The following strategies from the active learning methodology are recommended:
- Conferences
- Flipped classroom / activities
  - Implementation of graphic organizers
  - Reasoning exercises
  - Analysis of texts containing reasoning
  - Exercises to identify correct and incorrect reasoning in the media
  - Construction of exercises with their own reasoning
  - Applications of logic to everyday life
  - Logic in the media
  - Evaluation of information on topics related to logic

EVALUATION

Participation	25%
Partial assignments	25%
Oral presentations	25%
Final project or exam	25%
TOTAL	100%

LEARNING ASSESSMENT

The institutional assessment rubric is applied to the course's core activity.

BIBLIOGRAPHY

TEXT

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REFERENCES

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Foucault, M. (1989). *Las palabras y las cosas*. Siglo XXI.

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Rivera, J. A. (2003). Nuevo enfoque del bien y del mal. *Ensayos éticos*.

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Wilson, J. (1971). *El lenguaje y la búsqueda de la verdad*. Edhasa.

Wittgenstein, L. (1968). *Philosophical investigations*. Macmillan.

ELECTRONIC RESOURCES

- El portal de la filosofía en internet: https://www.filosofia.net/
- Filosofía en red: www.cibernous.com
- Filosofía en español: https://www.filosofia.org/
- Internet Encyclopedia of Philosophy: https://iep.utm.edu/

For more information resources related to the course's topics, access the library's webpage http://biblioteca.sagrado.edu/.

REASONABLE ACCOMMODATION

For detailed information on the process and required documentation you should visit the

corresponding office. To ensure equal conditions, in compliance with the ADA Act (1990) and the Rehabilitation Act (1973), as amended, any student in need of reasonable accommodation or special assistance must complete the process established by the Vice Presidency for Academic Affairs.

ACADEMIC INTEGRITY

This policy applies to all students enrolled at Universidad del Sagrado Corazón to take courses with or without academic credit. A lack of academic integrity is any act or omission that does not demonstrate the honesty, transparency, and responsibility that should characterize all academic activity. Any student who fails to comply with the Honesty, Fraud, and Plagiarism Policy is exposed to the following sanctions: receive a grade of zero in the evaluation and/or repetition of the assignment in the seminar, a grade of F (*) in the seminar, suspension, or expulsion as established in the Academic Integrity Policy effective in November 2022.