# Introduction to logic

## Prof. Daniela Bragoli

***COURSE AIMS AND INTENDED LEARNING OUTCOMES***

The course aims to provide students with the basic tools of propositional and reasoning logic that are the basis of many important theories and applications both in the economic field and, in general, in the social sciences.

*Intended learning outcomes*

At the end of the course, students will be able to: know the rules of well reasoning; identify a procedure to specify task and meaning of logic in knowledge; identify the four phases of the cognitive process; recognize the differences between the different types of inference; understand the connection between sets and logical propositions; deal with the most common demonstration techniques.

Furthermore students can be able to: critically analyse the subjects of the course; explain in an appropriate and effective manner the acquired skills; examine specific subjects in depth by using the methods learned during lessons.

***COURSE CONTENT***

Introduction to logic. The rules of immediate inference. Various types of syllogisms. Sets and their representations. Operations on sets. Boolean algebra. Set interpretation of logic propositions. Operations between propositions. Propositional equivalence. Compound propositions. Truth tables. Demonstration techniques.

***READING LIST***

The reading list will be provided at the beginning of the course.

***TEACHING METHOD***

Lectures and practical classes; further material provided on the Blackboard.

***ASSESSMENT METHOD AND CRITERIA***

The written exam, which may focus on all the topics covered in the course, includes answering five questions concerning both theoretical topics and practical exercises. The questions worth 6 points each. The written exam is passed reaching a passing grade (greater than or equal to 18 scores).

70% of the points of each question are attributed on the basis of accuracy and completeness of the answer, 30% based on students’ skills for logical reasoning, rigour, clear and appropriate language.

***NOTES AND PREREQUISITES***

Being an introductory course, there are no content related prerequisites for the course.

In case the current Covid-19 health emergency does not allow frontal teaching, remote teaching and assessment will be carried out following procedures that will be promptly notified to students.

Further information can be found on the lecturer's webpage at http://docenti.unicatt.it/web/searchByName.do?language=ENG, or on the Faculty notice board.