Introduction to logic

ECTS : 3

Volume horaire : 30

Description du contenu de l'enseignement :

- Valid and sound arguments
- Formalize natural language statements in symbolic forms (propositional and predicate logic)
- Propositional logic:
  - syntax and semantics
  - truth tables
  - axiomatic proof
  - tableaux
  - derivations
  - SAT
- Predicate logic:
  - syntax and semantics
  - axiomatic proof
  - tableaux

Compétence à acquérir :

This course provides an introduction to classical logic. You will develop an understanding of symbolic logic and of different proof techniques. No prerequisite is required. After an informal introduction to valid and sound arguments in natural language, we move to formal classical logic.

- You will develop an understanding of symbolic logic and of different proof techniques.
- You will be able to translate natural language sentences to propositional and first-order logic.
- You will learn how to prove statements using the most common deductive systems (axiomatic systems, tableaux, derivations).

Bibliographie, lectures recommandées :

- Reading material will be provided on the course space on Moodle
- Recommended book:
  - Valentin Goranko. "Logic as a Tool : A guide to formal logical reasoning", Wiley, 2016.