Introduction to logic

ECTS : 3

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Langue du cours : Français

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

Compétences à acquérir :

This course provides an introduction to classical logic. 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, derivation..).

Pré-requis recommandés

None

Bibliographie, lectures recommandées :

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