Kurzus kódja: BMA-LOTD-308.03, BMI-LOTD-308E.03
Title of course: Introduction to non-classical logics
Kurzus megnevezése angolul: Introduction to non-classical logics
Location and time: i/ -108 , Monday 18:00 - 19:30
Kurzus előadója: William Brown (williamjosephbrown@gmail.com)

Method of evaluation: Oral exam or presentation at the end of the semester

Exam requirements:

- For the oral exam: Understanding of the material covered in class.
- Presentation: Elaboration and presentation of a small original research work related to the course.

Introduction to non-classical logics

There are different ways to define what classical logic is, however by classical logic most logicians mean propositional logic and first-order logic. Non-classical logics are all the other logical systems (except the second and higher-order extensions of classical first-order logic). We will discuss more precisely the definitions of classical and non-classical logic at the beginning of the course.

Non-classical logics can be obtained in a variety of ways, for instance by various extensions and modifications on classical logic. New logical constants can be added (for example we can add a modal operators such as necessity and obtain a modal logic), more than 2 truth values can be allowed (and get many-valued logic), various laws of classical logic can be rejected (excluded middle, explosion principle, double negation, etc.) to obtain new systems and family of systems, etc. Unsurprisingly, non-classical logic is a very large class of logics.

We will study various extensions and modifications of classical logic, and see what family of (non-classical) logics we thus obtain (and how those families can be defined and classified). Within each of these families we will study various specific logical systems.

Some families of logics we will study throughout the semester include: modal logics, many-valued logics, intuitionistic logics, conditional logics, paraconsistent logics, relevant logics, etc.

Literature:

- Priest, G., An Introduction to Non-Classical Logic . Cambridge University Press, 2nd Edition, 2008.
- Gabbay, Handbook of Philosophical Logic , Springer, 2nd Edition. (various chapters across several volumes, the relevant ones will be mentioned during the classes)
- Beal, J.C., Frassen, van B.C., Possibilities and Paradox: An Introduction to modal and many-valued logic . Oxford University Press, 2003.