Kurzus kódja: BMA-LOTD-328.01, BMI-LOTD-328E.01
Title of course: Introduction to Modal Logic
Kurzus megnevezése angolul: Introduction to Modal Logic
Location and time: i/224, Tuesday 16:00 - 17:30
Kurzus előadója: William Brown

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.

Content of the course:

Propositional modal logics constitute a very large family of logical systems. In this course, we will study various classes of propositional modal logics and languages, as well as various specific modal logics.

We will start by asking ourselves, “what are modalities ?”, and see what we can express with them. More precisely, we will see how they can help us expand the expressiveness of classical propositional languages.

After introducing modal languages formally, we will study Kripke semantics. We will then discuss completeness results for Kripke semantics, as well as the limitations inherent to this kind of semantics, which leads to incompleteness results for some modal logics.

Other topics we will discuss include (with more or less details): various modal logics and what they can model, such as temporal, epistemic, deontic, alethic modal logics ; algebraic semantics ; modal model theory ; and modal correspondence theory.

This course is intended as an introduction to modal logic.

Literature:

- Blackburn, P., Rijke, M. de., Venema, Y., *Modal Logic*. Cambridge tracts in theoretical computer science 53, 2001.
- Beal, J.C., Frassen, van B.C., *Possibilities and Paradox: An Introduction to modal and many-valued logic*. Oxford University Press, 2003.