Code of course: BMI-LOTD-326E.03, BMA-LOTD-326.03
Title of course: Modal logic II
Title of course in English: Modal logic II
Lecturer: Zalán Molnár

Content of the course:

This course is a direct continuation of the last semester's Modal logic course. Our aim is to study the more advanced and recent topics of modal theory of modal logics. In the first half of the semester we cover the topics: duality theory between frames and algebras, algebraic counterpart of modal logic, algebraic characterization of Goldblatt-Thomason theorem, canonical varieties, general frames, duality theory of general frames, connection between elementary classes and modal logics, canonicity, model and frame definability, persistence and Sahlqvist's theorem. In the second half we study hybrid logics and their definability properties.

Grading criteria, specific requirements:

Grading is based on homeworks (70%) and a final exam (30%).
Prerequisites: Basic model theory, basic universal algebra, basic modal logic

Suggested reading:

P. Blackbrun, M. de Rijke, Y. Venema (2001). *Modal Logic*. Cambirdge University Press.

A. Chagrov, M. Zakharyaschev (1997). *Modal Logic*. Clarendon Press, Oxford.

M. Kracht (1999). *Tools and Techniques in Modal Logic*. Elsevier Science.

B. David ten Cate (2005). *Model theory for extended modal languages*. PhD. dissertation.