



## COURSE DATASHEET

<b>Semester:</b>	2015/16/1
<b>Course:</b>	Modern Organic Synthesis
<b>Code:</b>	VEMKOKM112M
<b>Responsible department:</b>	Department of Organic Chemistry
<b>Department code:</b>	MKOK
<b>Responsible instructor:</b>	dr. József Kaizer

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### Course objectives:

Educational Objectives: Introduction to theoretical and practical aspects of modern organic synthesis design.

### Course content:

Contents: Week: 1. Synthetic Analysis and Design (Retrosynthetic Analysis) 2. Regio and Stereoselectivity of Catalytic Process 3. Reaction Mechanisms 4. Kinetics and Thermodynamics of Organic Reactions 5. Reaction Mechanisms and Conformational Effects on Reactivity 6. Oxidation Reactions (Asymmetric epoxidation, Dihydroxylation, Baeyer-Villiger and Related Reactions) 7. Oxidation Reactions (Beckmann Rearrangement and Related Reactions) 8. Reductions Reactions 9. Hydroboration-Oxidation 10. Enolate Chemistry 11. Metalation Reactions 12. Key Ring Forming Reactions 13. Olefin Synthesis (Wittig, Wadsworth-Horner-Emmons) 14. Olefin Synthesis (Tebbe Reaction, Sigmatropic Rearrangements) 15. Protecting Groups and their Application

### Requirements, evaluation and grading:

Examination Requirements and Questions: The written test for the students involves the main areas of modern organic chemistry such as nomenclature, classification, and mechanistic aspects of organic reactions. The student has to reach a 50% result to get passed the course. The individual questions can be viewed on previous exam sheets. On every occasion new questions are posed.

### Required and recommended readings:

Kötelező és ajánlott irodalom: Dale L. Boger, Modern Organic Synthesis, Lecture Notes, TSRI Press, Copyright 1999, La Jolla, CA, USA