

ORGANIC CHEMISTRY, ADVANCED COURSE

1.1. Identification

University:	Kungl Tekniska Högskolan (KTH), Stockholm											
School:	School of Chemical, Science and Technology											
Course:	Organic chemistry, advanced course											
ECTS:	13.5											
Semester:	<i>Winter</i>				X	<i>Summer</i>				X		
Category	<i>Fundamental course</i>					<i>Specialisation course</i>					X	
Module	<i>MFI</i>		<i>MFII</i>		<i>MFIII</i>		<i>MSI</i>	X	<i>MSII</i>		<i>MSIII</i>	
Teachers:	Krister Zetterberg, Peter Somfai											
Language:	<i>English</i>		X	<i>Italian</i>		<i>Swedish</i>	X	<i>Spanish</i>				

1.2. Learning-outcomes

- knowledge in the vast field of organic chemistry.
- knowledge of the reactivity of organic compounds.

1.3. Competencies

▪ General

- to have critical understanding of technical and scientific tools
- to work and manage teams
- communication skills (both written and oral)
- to work in an international context

▪ Specific

- to understand the different reactivity of the organic compounds
- to knowledge the importance of the reactivity in the synthesis purposes.

1.4. Contents

Reactivity in organic chemistry. The impact of hydrogen bonds. Synthesis reactions. Stereochemistry. Catalysts. Transition-metal catalysts. Modern methods and problems in organic synthesis. Multistep synthesis. Metal-organic chemistry, pericyclic reactions and asymmetric synthesis. Organic structure analysis. Modern molecular spectroscopy. Computer based molecular modelling.

1.5. Teaching Methodology

- Lecture sessions
- Practical sessions: "cooperative work" for solving problems
- laboratory sessions

1.6. Evaluation

- written exams
- oral evaluation of the problems solved by "cooperative work"
- oral evaluation of laboratory work

1.7. Bibliography

"Organic Chemistry" av J. Clayden, N.

Greeves, S. Warren and P. Wothers, Oxford University Press 2001, ISBN 0 19