Univerza v Mariboru

Fakulteta za naravoslovje in matematiko

UČNI NAČRT PREDMETA / COURSE SYLLABUS	
Predmet:	Organska sinteza
Course title:	Organic synthesis

Študijski program in stopnja **Study programme and level**	**Študijska smer** **Study field**	**Letnik** **Academic year**	**Semester** **Semester**
Enovit magistrski študijski program druge stopnje Predmetni učitelj	**/**	**3.**	**Zimski** **autumn**
Five-year master's degree program Subject Teacher	**/**		

Vrsta predmeta / Course type	Izbirni / Elective
Univerzitetna koda predmeta / University course code:	

Predavanja **Lectures**	**Seminar** **Seminar**	**Vaje** **Tutorial**	**Lab. vaje** **Laboratory work**	**Terenske vaje** **Field work**	**Samost. delo** **Individ. work**	**ECTS**
15			**15**		**60**	**3**

Nosilec predmeta / Lecturer:	Peter Krajnc

Jeziki / **Languages:**	**Predavanja / Lectures:**	slovenski / slovene
	Vaje / Tutorial:	slovenski / slovene

Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:	**Prerequisits:**
Znanje iz splošne in organske kemije; obvladovanje osnovnih eksperimentalnih postopkov.	Knowledge of general and organic chemistry; proficiency with basic experimental procedures.

Vsebina:

Načrtovanje organskih sintez s termičnimi metodami.

Retrosintetska analiza, sintoni.

Primeri najpogostejših sinteznih metod v organski kemiji.

Laboratorijske vaje:

Sintezne metode, delo pod inertno atmosfero.

Content (Syllabus outline):

Planning of organic synthesis via thermal methods. Retrosynthetic analysis, sintons.

Cases of most used synthetic methods in organic chemistry.

Experimental course:

Synthetic methods, work under inert atmosphere.

Temeljni literatura in viri / Readings:

Warren S., Organic Synthesis: The Disconnection Approach, Wiley 1984.

Warren S., Wyatt P., Organic Synthesis: Strategy and Control, Wiley, 2007.

M. B. Smith, J. March, March's Advanced Organic Chemistry, Wiley, 2007.

Cilji in kompetence:

Spoznati metodo retrosintetske analize.

Biti sposoben načrtovati sintezo organskih molekul iz preprostejših prekurzorjev.

Objectives and competences:

To know: The method of retrosynthetic approach to organic synthesis.

To be abble to plan the synthesis of organic molecules from less complex molecules.

Predvideni študijski rezultati:

Znanje in razumevanje:

Študent zna uporabljati metodo retrosintetske analize v namene načrtovanja organskih sintez.

Študent se spozna z naprednejšimi metodami sinteze v laboratoriju.

Prenesljive/ključne spretnosti in drugi atributi:

Načrtovanje organskih sintez.

Intended learning outcomes:

Knowledge and understanding:

Student can use the method of retrosynthetic analysis (disconnection approach) for the planning of organic molecule synthesis.

Student becomes familiar with advanced synthesis techniques in the laboratory.

Transferable/Key Skills and other attributes:

Planing of organic synthesis.

Metode poučevanja in učenja:

Predavanja, laboratorijske vaje, seminar

Learning and teaching methods:

Lectures, laboratory experiments, seminar

Delež (v %) /

Načini ocenjevanja:	Weight (in %)	**Assessment:**
Način (pisni izpit, ustno izpraševanje, naloge, projekt)		Type (examination, oral, coursework, project):
Izpit je opravljen, če so pozitivno opravljene vse naslednje obveznosti:		Student passes the examination if s(he) successfully passed all the following obligations:
Pisni izpit	80	Written exam
Lab. vaje	20	Exp. course

Reference nosilca / Lecturer's references:

PULKO, Irena, SANDHOLZER, Martina, KOLAR, Mitja, SLUGOVC, Christian, KRAJNC, Peter. Removal of an olefin metathesis catalyst using 4-nitrophenyl acrylate based polymer supports. *Tetrahedron lett.*. [Print ed.], 2010, vol. 51, issue 44, str. 5827-5829, doi: 10.1016/j.tetlet.2010.08.114. [COBISS.SI-ID 14383638]

PODGORŠEK, Ajda, EISSEN, Marco, FLECKENSTEIN, Jens, STAVBER, Stojan, ZUPAN, Marko, ISKRA, Jernej. Selective aerobic oxidative dibromination of alkenes with aqueous HBr and sodium nitrite as a catalyst. *Green chem. (Print)*, 2009, vol. 11, no. 1, str. 120-126. [COBISS.SI-ID 22360359]

ŽMITEK, Katja, ZUPAN, Marko, STAVBER, Stojan, ISKRA, Jernej. The effect of iodine on the peroxidation of carbonyl compounds. *J. org. chem.*, 2007, vol. 72, str. 6534-6540. [COBISS.SI-ID 20969511]