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** **Lab. work**	**Druge oblike študija**	**Samost. delo** **Individ. work**	**ECTS**
15			**15**		**60**	**3**

Nosilec predmeta / Lecturer: Sebastijan Kovačič

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: **Content (Syllabus outline):**

Načrtovanje organskih sintez s termičnimi metodami. Retrosintetska analiza, sintoni. Primeri najpogostejših sinteznih metod v organski kemiji. Laboratorijske vaje: Sintezne metode, delo pod inertno atmosfero.	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:

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

Cilji in kompetence:	**Objectives and competences:**
Spoznati metodo retrosintetske analize. Biti sposoben načrtovati sintezo organskih molekul iz preprostejših prekurzorjev.	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:	**Intended learning outcomes:**
- **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.	**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:	**Learning and teaching methods:**

Predavanja, laboratorijske vaje, seminar	Predavanja, laboratorijske vaje, seminar

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

Reference nosilca / Lecturer's references:

KOTNIK, Tomaž, ŽERJAV, Gregor, PINTAR, Albin, ŽAGAR, Ema, KOVAČIČ, Sebastijan. Azine- and imine-linked conjugated polyHIPEs through Schiff-base condensation reaction. Polymer chemistry. [DOI: 10.1039/d1py01467f.

STIERNET, Pierre, MAZAJ, Matjaž, **KOVAČIČ, Sebastijan**, DEBUIGNE, Antoine. Bifunctional imidazolium/amine polymer foams: one-pot synthesis and synergistic promotion of CO2 sorption. *Chemical engineering journal*. 2022, 38, 1385-8947. DOI: 10.1016/j.cej.2022.137012.

KOTNIK, Tomaž, ŽERJAV, Gregor, PINTAR, Albin, ŽAGAR, Ema, **KOVAČIČ, Sebastijan**. Azine- and imine-linked conjugated polyHIPEs through Schiff-base condensation reaction. *Polymer chemistry,* 2022, 13, 474-478.

KOTNIK, Tomaž, ŽERJAV, Gregor, PINTAR, Albin, ŽAGAR, Ema, **KOVAČIČ, Sebastijan**. Highly porous poly(arylene cyano-vinylene) beads derived through the Knoevenagel condensation of the oil-in-oil-in-oil double emulsion templates. *ACS macro letters*. 2021,10, 1248-1253.

JURJEVEC, Sarah, ŽERJAV, Gregor, PINTAR, Albin, ŽAGAR, Ema, **KOVAČIČ, Sebastijan**. Tunable poly(aryleneethynylene) networks prepared by emulsion templating for visible-light-driven photocatalysis. *Catalysis today*. 2021, 361, 146-151.

JURJEVEC, Sarah, DEBUIGNE, Antoine, ŽAGAR, Ema, **KOVAČIČ, Sebastijan**. An environmentally benign post-polymerization functionalization strategy towards unprecedented poly(vinylamine) polyHIPEs. *Polymer chemistry*. 2021, 12, 1155-1164.

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]