

## UČNI NAČRT PREDMETA / COURSE SYLLABUS

<b>Predmet:</b>	Seminar I
<b>Course title:</b>	Seminar I

Študijski program in stopnja Study programme and level	Študijska smer Study field	Letnik Academic year	Semester Semester
Nanoznanosti in nanotehnologije, 2. stopnja	/	1	2
Nanosciences and Nanotechnologies, 2 <sup>nd</sup> cycle	/	1	2

**Vrsta predmeta / Course type** Obvezni / Mandatory

**Univerzitetna koda predmeta / University course code:** NANO2-845

Predavanja Lectures	Seminar Seminar	Vaje Tutorial	Klinične vaje work	Druge oblike študija	Samost. delo Individ. work	ECTS
	30			30	240	<b>10</b>

*\*Navedena porazdelitev ur velja, če je vpisanih vsaj 15 študentov. Drugače se obseg izvedbe kontaktnih ur sorazmerno zmanjša in prenese v samostojno delo. / This distribution of hours is valid if at least 15 students are enrolled. Otherwise the contact hours are linearly reduced and transferred to individual work.*

**Nosilec predmeta / Lecturer:** Prof. dr. Barbara Malič  
Prof. dr. Gojmir Lahajnar  
Prof. dr. Aleksander Zidanšek  
Prof. dr. Boris Žemva

**Jeziki / Languages:** **Predavanja / Lectures:** Slovenski ali angleški / Slovene or English  
**Vaje / Tutorial:**

**Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:** Zaključen študij prve stopnje. **Prerequisites:** Completed first cycle studies.

**Vsebina:** Študenti bodo razvili sposobnosti spremljanja ter prepoznavanja aktualnih strokovno raziskovalnih problemov, sodobnih metod raziskovanja, najnovejših rezultatov in uporabe najnovejšega znanja na področju nanoznanosti in nanotehnologij. Študenti se bodo soočili tudi z izzivi izdelave pisnega pregleda obravnavanih vsebin ter s posredovanjem ugotovitev v obliki ustne predstavitve seminarja. **Content (Syllabus outline):** Students will develop the ability to follow and identify current professional research problems, modern methods of research, the latest results and the use of the state-of-the-art knowledge in the field of nanosciences and nanotechnologies. Students will also face with the challenges of writing a written review of the selected topics and by sharing of their findings through oral seminar presentation.

**Temeljni literatura in viri / Readings:** Strokovna in znanstvena literatura s področja seminarja. / Professional and scientific literature from the field of the seminar.

**Cilji in kompetence:**

Cilj predmeta je spoznavanje aktualnih strokovnih problemov, sodobnih metodoloških pristopov k njihovi razrešitvi in najnovejših dosežkov na področju nanoznanosti in nanotehnologij. Pomemben cilj je tudi sposobnost pisnega celostnega povzemanja obravnavanih vsebin in posredovanje ugotovitev v obliki ustne komunikacije.

**Objectives and competences:**

The aim of the course is to learn about current professional problems, modern methodological approaches to their solutions and the latest achievements in the field of nanosciences and nanotechnologies. An important goal is also the ability to write comprehensive review of the selected study subject and to share their findings in the form of oral communication.

**Predvideni študijski rezultati:**

Priprava pisnega poročila, njegova predstavitev ter suverena ustna komunikacija o obravnavanih vsebinah.

Študenti bodo izpopolnili sposobnosti spremljanja ter poznavanja sodobnih raziskav in dosežkov na področju nanoznanosti in nanotehnologij, kritične ocene pomembnosti objav v znanstveni literaturi, pisnega povzemanja obravnavane vsebine ter njene suverene predstavitve in ustnega komuniciranja.

**Intended learning outcomes:**

Preparation of written reports and oral presentations based on their own research work.

Students are expected to gain a general understanding of the research activities in nanosciences and nanotechnologies. They will get skills to evaluate published works in scientific literature, to write professional and scientific papers and to make a public presentation of their review seminar work.

**Metode poučevanja in učenja:**

Seminar, konzultacije, druge metode

**Learning and teaching methods:**

Seminar, consultations, other methods

Načini ocenjevanja:	Delež (v %) / Weight (in %)	Assessment:
Pisna seminarska naloga	70 %	Written seminar work
Ustna predstavitev z zagovorom seminarske naloge	30 %	Oral presentation with the defense of the seminar work

**Reference nosilca / Lecturer's references:**

ROJAC, Tadej, BENČAN, Andreja, DRAŽIČ, Goran, SAKAMOTO, Naonori, URŠIČ, Hana, JANČAR, Boštjan, TAVČAR, Gašper, MAKAROVIC, Maja, WALKER, Julian, MALIČ, Barbara, DAMJANOVIĆ, Dragan. Domain-wall conduction in ferroelectric BiFeO<sub>3</sub>BiFeO<sub>3</sub> controlled by accumulation of charged defects. *Nature materials*, ISSN 1476-1122, 2017, vol. 16, no. 3, str. 322-327, doi: [10.1038/nmat4799](https://doi.org/10.1038/nmat4799). [COBISS.SI-ID [29936679](https://www.cobiss.si/id/29936679)],  
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