



### UČNI NAČRT PREDMETA / COURSE SYLLABUS

<b>Predmet:</b>	Raziskovalno delo II
<b>Course name:</b>	Research work II

Študijski program in stopnja Study program and level	Študijska smer Study field	Letnik Academic year	Semester Semester
Fizika in Astrofizika II. stopnja	vse	2	/
Physics and Astrophysics II. level	vse	2	/

<b>Vrsta predmeta / Course type</b>	obvezni / mandatory
<b>Univerzitetna koda predmeta / University course code:</b>	2FAF12

Predavanja Lectures	Seminar Seminar	Sem. vaje Tutorial	Lab. vaje Lab. work	Teren. vaje Field work	Samost. delo Indiv. work	ECTS
/	/	/	360	/	/	12

<b>Nosilec predmeta / Lecturer:</b>	Prof. dr. Sandra Gardonio	
<b>Jeziki / Languages:</b>	<b>Predavanja / Lectures:</b>	slovenščina / English
	<b>Vaje / Tutorial:</b>	slovenščina / English

**Pogoji za opravljanje študijskih obveznosti: Prerequisites:**

/	/
---	---

<b>Vsebina:</b>	<b>Syllabus outline:</b>
Predmet Raziskovalno delo II je namenjeno raziskavam povezanim z določeno magistrsko temo pod vodstvom v naprej določenega mentorja. V okviru predmeta se študent spozna z vsemi podrobnostmi raziskovalnega dela v okviru svoje teme in izvede potrebne meritve.	The course "Research work II" is aimed at research in the framework of the already defined master thesis and under the supervision of an already appointed supervisor. Within this course the student learns all the details regarding his experimental work needed for his thesis.

**Temeljni literatura in viri / Basic readings:**

Definirana glede na raziskovalno področje, v dogovoru z mentorjem.  
Defined with respect to the research field and in accord with the supervisor.

<b>Cilji in kompetence:</b>	<b>Objectives and competences:</b>
- Vzgoja samostojnega raziskovalnega dela - Kritično presojanje znanstvene literature - Kritično vrednotenje pridobljenih podatkov	- Training in independent research work - Critical assessment of scientific literature - Critical assessment of acquired data



- Sintetična uporaba pridobljenega znanja iz predmetov	- Syntetic use of acquired knowledge from courses
--------------------------------------------------------	---------------------------------------------------

<b>Predvideni študijski rezultati:</b>	<b>Intended learning outcomes:</b>
- usposobljenost za varno delo v laboratoriju; - pridobitev etičnih načel v znanstvenem; poročanju - sposobnost pisanja znanstvenih poročil.	- Laboratory skills; - Ethical principles in scientific reporting; - Presentation skills.

<b>Metode poučevanja in učenja:</b>	<b>Learning and teaching methods:</b>
- raziskovalno delo pod vodstvom mentorja.	- supervised research work.

<b>Načini ocenjevanja:</b>	<b>Utež / Weight (%)</b>	<b>Assessment:</b>
Opisna ocena mentorja o uspešnosti raziskovalnega dela.	100	Descriptive assessment of the advisor about the success in the research work.

<b>Reference nosilca / references of the course principal:</b>
<p>Dr. Sandra Gardonio je izredna profesorica za področje materialov na Univerzi v Novi Gorici. Dr. Sandra Gardonio is an associate professor of materials at the University of Nova Gorica.</p> <ol style="list-style-type: none"> <li>BELEC, Blaž, FERFOLJA, Katja, GORŠAK, Tanja, KOSTEVŠEK, Nina, GARDONIO, Sandra, FANETTI, Mattia, VALANT, Matjaž. Inherent surface properties of adsorbent-free ultrathin Bi<sub>2</sub>Se<sub>3</sub> topological insulator platelets. <i>Scientific reports</i>, ISSN 2045-2322, 2019, vol. 9, str. 190571-1-19057-9, ilustr. <a href="https://doi.org/10.1038/s41598-019-55646-1">https://doi.org/10.1038/s41598-019-55646-1</a>, doi: <a href="https://doi.org/10.1038/s41598-019-55646-1">10.1038/s41598-019-55646-1</a>. [COBISS.SI-ID <a href="#">5506299</a>]</li> <li>FANETTI, Mattia, MIKULSKA, Iuliia, FERFOLJA, Katja, MORAS, Paolo, SHEVERDYAEVA, P. M., PANIGHEL, M., LODI-RIZZINI, A., PÍŠ, I., NAPPINI, S., VALANT, Matjaž, GARDONIO, Sandra. Growth, morphology and stability of Au in contact with the Bi<sub>2</sub>Se<sub>3</sub>(0001) surface. <i>Applied Surface Science</i>, ISSN 0169-4332. [Print ed.], Mar. 2019, vol. 471, str. 753-758, ilustr., doi: <a href="https://doi.org/10.1016/j.apsusc.2018.11.140">10.1016/j.apsusc.2018.11.140</a>. [COBISS.SI-ID <a href="#">5276923</a>]</li> <li>FERFOLJA, Katja, VALANT, Matjaž, MIKULSKA, Iuliia, GARDONIO, Sandra, FANETTI, Mattia. Chemical instability of an interface between silver and Bi<sub>2</sub>Se<sub>3</sub> topological insulator at room temperature. <i>The journal of physical chemistry. C, Nanomaterials and interfaces</i>, ISSN 1932-7447, 2018, vol. 122, no. 18, str. 9980-9984, ilustr., doi: <a href="https://doi.org/10.1021/acs.jpcc.8b01543">10.1021/acs.jpcc.8b01543</a>. [COBISS.SI-ID <a href="#">5205243</a>]</li> </ol>



4. GARDONIO, Sandra, KAROLAK, M., WEHLING, T. O., PETACCIA, L., LIZZIT, Silvano, GOLDONI, Andrea, LICHTENSTEIN, A. I., CARBONE, Carlo. Excitation spectra of transition-metal atoms on the Ag (100) surface controlled by Hund's exchange. *Physical review letters*, ISSN 0031-9007. [Print ed.], 2013, vol. 110, no. 18, str. 186404-1-186404-5. [COBISS.SI-ID [2741755](#)]
5. GARDONIO, Sandra, WEHLING, T. O., PETACCIA, L., LIZZIT, S., VILMERCATI, Paolo, GOLDONI, A., KAROLAK, M., LICHTENSTEIN, A. I., CARBONE, Carlo. Spectral functions of isolated Ce adatoms on paramagnetic surfaces. *Physical review letters*, ISSN 0031-9007. [Print ed.], 2011, vol. 107, no. 2, str. 026801-1-026801-4. [COBISS.SI-ID [1968635](#)]