

**UČNI NAČRT PREDMETA / COURSE SYLLABUS**

<b>Ime predmeta:</b>	RAZISKOVALNO DELO
<b>Course title:</b>	RESEARCH WORK

<b>Študijski program in stopnja</b> Study programme and cycle	<b>Študijska smer</b> Study option	<b>Letnik</b> Year of study	<b>Semester</b> Semester
LOGISTIKA SISTEMOV 1. stopnja		3.	6.
SYSTEM LOGISTICS 1 <sup>st</sup> degree		3.	6.

<b>Vrsta predmeta (obvezni ali izbirni) /</b> Course type (compulsory or elective)	OBVEZNI
	COMPULSORY

<b>Univerzitetna koda predmeta / University course code:</b>	UN
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<b>Predavanja</b> Lectures	<b>Seminar</b> Seminar	<b>Vaje</b> Tutorial	<b>Klinične vaje</b> Clinical training	<b>Druge oblike študija</b> Other forms of study	<b>Samost. delo</b> Individual work	<b>ECTS</b>
12 a-P 12 e-P		8 e-V 12 a-V			106	5

<b>Nosilec predmeta / Course coordinator:</b>	MATEVŽ OBRECHT
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<b>Jeziki /Languages:</b>	<b>Predavanja / Lectures:</b>	SLOVENSKI/SLOVENE
	<b>Vaje / Tutorial:</b>	SLOVENSKI/SLOVENE

**Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:**

- Študent mora biti vpisan v 3. letnik.
- Opravljen mora imeti predmet Uvod v raziskovalno delo.

**Prerequisites for enrolling in the course or for performing study obligations:**

- A student must be enrolled in the 3<sup>rd</sup> year of study.
- A student must have completed the course "Introduction into research work".

**Vsebina (kratek pregled učnega načrta):**

Študent, ki se je že priključil k raziskovalnemu delu v enem izmed laboratorijev, v okviru predmeta Uvod v raziskovalno delo, pod mentorstvom visokošolskih učiteljev, asistentov ali raziskovalcev v laboratoriju, nadaljuje delo pri izbranem raziskovalnem projektu. Odvisno od izbrane tematike in metod dela, spoznajo in poglobijo znanje znanstvenega dela. Teoretično znanje pridobljeno v 1. in 2. letniku uporabijo konkretno na zastavljenem logističnem problemu, ki je pri predmetu.

Dodatno:

- Spoznajo koncept in strukturo znanstvenega članka
- Praktični primeri lažnih novic in kako se temu lahko izognemo v raziskovanju

**Content (syllabus outline):**

A student who has already joined research work in one of the laboratories in the framework of the course "Introduction into research work" under the mentorship of higher-education teachers, assistant teachers and researchers in laboratories continues with his/her work on a chosen research project. Depending on the chosen topic and method of work, students learn about and deepen their knowledge of research work. Students apply the theoretical knowledge they gained in the 1<sup>st</sup> and 2<sup>nd</sup> year of study to a concrete logistical problem.

In addition they get to know:

- Concept and structure of scientific papers

-Praktični primeri dobrih in slabih raziskovalnih člankov (v logistiki)  
-Spoznajo aplikacijo izbranih znanstvenih metod na primerih dobrih in pomanjkljivih raziskovalnih del

-Practical examples of fake news and ways to avoid it in research  
-Practical examples of extraordinary and inappropriate research papers (in logistics)  
-Application of selected research methods within research papers

#### Temeljna literatura in viri / Reading materials:

- E-gradivo predmeta. 2021.
- Goddard, W. & Melville, S. (2001). *Research methodology : an introduction* (2<sup>nd</sup> ed.). Lansdowne : Juta.

Osnovna literatura so znanstveni članki in knjige po izboru mentorja./The main literature are research articles and books selected by the mentor.

#### Cilji in kompetence:

Cilji predmeta so:

- Aplikativna uporaba znanj, ki jih študent pridobi tekom študija, pridobivanje komunikacijskih spretnosti, dela v timu ipd.
- Študent po zaključku predmeta zna izvesti lažjo aplikativno raziskavo in znanstveno predstaviti rezultate.
- Študente seznaniti s s strukturo in konceptom znanstvenih del ter s praktičnimi primeri raziskovalnega dela.
- Razumeti pomen raziskovalnega dela pri izogibanju lažnim novicam.

Kompetence, ki jih študentje osvojijo:

- pridobijo teoretično znanje s področja raziskovanja in priprave raziskovalnih del
- se usposobijo za uporabo raziskovalnih metod in izvedbo lažje raziskave v praksi ter interpretacijo in predstavitev rezultatov

#### Objectives and competences:

The goals of the course are

- Applied use of knowledge which a student has gained during the study, gaining communication skills, teamwork, etc.
- On completion of the course, the student will be able to carry out a simple applied research and scientifically present the results.
- Get familiar with the structure and concept of research work based on practical cases of researches
- Understand the role of research work for avoiding fake news.

Key competences:

- get theoretical knowledge of research and preparing research reports
- ability to use research methods in simple practical research as well as to interpret and present results concisely

#### Predvideni študijski rezultati:

Po zaključku predmeta bo študent zmožen:

- povezovati teoretična znanja s področja predmetov študijskega programa in jih uporabiti za izvajanje zastavljenih nalog,
- izvesti preprosto aplikativno raziskavo
- reševati zastavljen logistični problem, opisan v članku, ki je praviloma osnova za diplomsko delo.
- Poiskati rešitve pri zastavljenih logističnih izzivih in nalogah
- Razumeti pomen raziskovanja pri izogibanju lažnim novicam
- Znanstveno predstaviti in skomunicirati rezultate dela z drugimi deležniki

#### Intended learning outcomes:

On completion of the course the student will be able to:

- integrate theoretical knowledge of all courses of the study programme and use it to perform the given assignments,
- carry out simple applicative research,
- solve the given logistical problem, discussed in an article, which usually serves as a basis for a diploma work.
- Find solutions for logistics challenges and tasks
- understand importance of research for avoiding fake news,
- scientifically present and communicate on research with different stakeholders,

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- problem solving: find potential solutions for given assignment (logistics challenges)

**Metode poučevanja in učenja:**

Predmet vključuje različne metode poučevanja in učenja, kot so: predavanja, diskusijske skupine, video predstavitve in filmi, primeri iz prakse ter predstavitve, vaje in samostojni študij študentov. Del predavanj in vaj se izvaja na klasični način v predavalnici, del pa v obliki e-izobraževanja (e-del se lahko izvaja na videokonferenčni način ali s pomočjo posebej v ta namen didaktično pripravljenih e-gradiv v virtualnem elektronskem učnem okolju).

Študent mora opraviti določeno število ur praktičnega raziskovalnega dela v laboratoriju na FL. Po opravljenem delu pod nadzorom mentorja pripravi poročilo oz. članek, ki ga na koncu javno predstavi.

**Learning and teaching methods:**

This course uses a range of teaching methods including lectures, discussion groups, videos and films, case studies, student presentation, tutorials and independent study of students.

Part of the lectures and tutorials is in a classroom while the rest is in the form of e-learning (e-lectures and e-tutorials may be given via video-conferencing or with the help of specially designed e-material in a virtual electronic learning environment).

A student must do a certain amount of hours of practical research work in a laboratory at the FL. On completion of work under the supervision of a mentor, a student prepares a report or an article, which he/she presents publically.

Načini ocenjevanja:	Delež (v %) / Share (in %)	Assessment methods:
<ul style="list-style-type: none"> <li>▪ Ocena poročila.</li> <li>▪ Javna predstavitev.</li> </ul>	<p>70%</p> <p>30%</p>	<ul style="list-style-type: none"> <li>▪ Report assessment.</li> <li>▪ Public presentation.</li> </ul>

**Reference nosilca / Course coordinator's references:**

- OBRECHT, Matevž, SINGH, Rhythm, ZORMAN, Timitej. Conceptualizing a new circular economy feature - storing renewable electricity in batteries beyond EV end-of-life : the case of Slovenia. *The international journal of productivity and performance management : Elektronski vir*, ISSN 1758-6658. [Online ed.]. <https://doi.org/10.1108/IJPPM-01-2021-0029>, doi: [10.1108/IJPPM-01-2021-0029](https://doi.org/10.1108/IJPPM-01-2021-0029)
- LAZAR, Sebastjan, KLIMECKA-TATAR, Dorota, OBRECHT, Matevž. Sustainability orientation and focus in logistics and supply chains. *Sustainability*, ISSN 2071-1050, 2021, vol. 13, iss. 6, str. [1]-20, ilustr. <https://doi.org/10.3390/su13063280>, doi: [10.3390/su13063280](https://doi.org/10.3390/su13063280).
- KNEZ, Matjaž, KOŽELJ ZEVNIK, Gašper, OBRECHT, Matevž. A review of available chargers for electric vehicles. *Renewable & sustainable energy reviews : an international journal*, ISSN 1364-0321. [Print ed.], Jul. 2019, vol. 109, str. 284-293, ilustr. <https://doi.org/10.1016/j.rser.2019.04.013>, doi: [10.1016/j.rser.2019.04.013](https://doi.org/10.1016/j.rser.2019.04.013). [COBISS.SI-ID [512988989](https://doi.org/10.1016/j.rser.2019.04.013)],
- JEREB, Borut, GAJŠEK, Brigita, ŠIPEK, Gregor, KOVŠE, Špela, OBRECHT, Matevž. Traffic density-related black carbon distribution : impact of wind in a basin town. *International journal of environmental research and public health*, ISSN 1660-4601. [Online ed.], 2021, vol. 18, iss. 12, str. [1]-17, ilustr. <https://doi.org/10.3390/ijerph18126490>, doi: [10.3390/ijerph18126490](https://doi.org/10.3390/ijerph18126490). [COBISS.SI-ID [69949699](https://doi.org/10.3390/ijerph18126490)]
- KNEZ, Matjaž, JEREB, Borut, JADRAQUE GAGO, Eulalia, ROSAK-SZYROCKA, Joanna, OBRECHT, Matevž. Features influencing policy recommendations for the promotion of zero emission vehicles in Slovenia, Spain, and Poland. *Clean technologies and environmental policy*, ISSN 1618-9558. [Online ed.]. <https://doi.org/10.1007/s10098-020-01909-9>, doi: [10.1007/s10098-020-01909-9](https://doi.org/10.1007/s10098-020-01909-9). [COBISS.SI-ID [26988291](https://doi.org/10.1007/s10098-020-01909-9)]