

UČNI NAČRT PREDMETA / COURSE SYLLABUS

Ime predmeta: RAZISKOVALNI PROJEKT
 Course title: SCIENTIFIC RESEARCH PROJECT

Študijski program in stopnja Study programme and cycle	Študijska smer Study option	Letnik Year of study	Semester Semester
LOGISTIKA SISTEMOV 2. stopnja		2.	4.
SYSTEM LOGISTICS 2 nd degree		2.	4.

Vrsta predmeta (obvezni ali izbirni) /
 Course type (compulsory or elective)

OBVEZNI
 COMPULSORY

Univerzitetna koda predmeta / University course code:

MAG

Predavanja Lectures	Seminar Seminar	Vaje Tutorial	Klinične vaje Clinical training	Druge oblike študija Other forms of study	Samost. delo Individual work	ECTS
12 a-P 8 e-P					250	9

Nosilec predmeta / Course coordinator:

MATEVŽ OBRECHT

Jeziki /Languages:

Predavanja / Lectures: SLOVENSKI/SLOVENE

Vaje / Tutorial: SLOVENSKI/SLOVENE

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

Študent mora biti vpisan v 2. letnik.

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

A student must be enrolled in the 2nd year of study.

Vsebina (kratek pregled učnega načrta):

Študent, ki se je že priključil k raziskovalnemu delu v enem izmed laboratorijev, v okviru predmeta Raziskovalni projekt, pod mentorstvom visokošolskih učiteljev, asistentov ali raziskovalcev v laboratoriju, nadaljuje delo pri izbranem znanstveno 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. Fokus je na:

- Raziskovalnem delu (raziskovalne niše, SLR, Baze SSCI, SCI, Scopus, Definiranje ključnih besed, Izbira raziskovalne tematike in teme, Definiranje namena in ciljev, Raziskovalna orodja, Struktura raziskovalnih projektov, Načrt

Content (syllabus outline):

A student who has already joined scientific research work in one of the laboratories in the framework of the course "Scientific research project" 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 1st and 2nd year of study to a concrete logistical problem. Focus is on:

- Scientific work (Defining niche and gap, SLR, scientific bases SSCI, SCI, Scopus, Defining keywords and Selection of research topic, Defining scope and goals, Research tools,

<p>raziskave, Etika v znanstvenoraziskovalnem delu).</p> <ul style="list-style-type: none"> • Znanstvenih člankih in projektih (Struktura, priprava in pisanje ter objava znanstvenih člankov). • Prenosljivih znanj (Udeležba na strokovnih in znanstvenih konferencah, simpozijih, Udeležba na seminarjih, delavnicah, Udeležba na zagovorih zaključnih del). 	<p>Structure of research project, Research plan, Ethics in science).</p> <ul style="list-style-type: none"> • Research papers and projects (Structure, preparation, writing and publishing of scientific papers). • Transferable knowledge (participation on professional and scientific conferences, symposiums, workshops, seminars, Participation on final thesis presentations).
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Temeljni literatura in viri / Reading materials:

<p>E-gradivo predmeta.</p> <p>Carey, S. S. (2011). <i>A beginner's guide to scientific method</i>. 4th ed. Wadsworth: Cengage Learning.</p> <p>Gauch Jr., H. G. (2003). <i>Scientific method in practice</i>. 1st ed. Cambridge: University Press.</p> <p>Katz M. J., From research to Manuscript, A guide to scientific writing, Springer Science + Business Media B. V., 2009.</p> <p>Day, R A. How to write and publish a scientific paper. Cambridge: Cambridge University Press, 2012 (7th edition).</p>

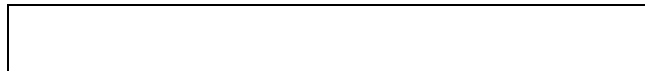
Cilji in kompetence:

<p>Cilj predmeta so:</p> <ul style="list-style-type: none"> • Seznaniti študente s pripravo, pisanjem in objavljanjem znanstveno-raziskovalnega dela. • Seznaniti študente z znanstvenimi revijami in faktorji vpliva. • Seznaniti študente z bazama Cobiss in Sicris. • Usposobiti študente za samostojno pripravo znanstvenih člankov. • Usposobiti študente za samostojno pripravo in izvedbo znanstveno-raziskovalnih projektov. • Seznaniti študente z avtorskimi pravicami v raziskovalnem delu in znanstvenem publiciranju. • Cilj predmeta je aplikativna uporaba znanj, ki jih študent pridobi tekom študija, pridobivanje komunikacijskih spretnosti, dela v timu ipd. <p>Kompetence ki jih razvijejo študentje:</p> <ul style="list-style-type: none"> • Se naučijo analizirati kompleksna, necelovita (nepopolna) in nasprotujoča si področja znanj ter razumljivo pojasniti rezultate raziskovalnega dela. • Sposobnost samostojnega načrtovanja raziskovalnega dela in uporabe raziskovalne metodologije. • Se usposobijo za raziskovalno delovanje z minimalnim vodenjem • Se usposobijo za samostojno in kompetentno komunicirati v strokovnih debatah.
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Objectives and competences:

<p>Goals of the subject:</p> <ul style="list-style-type: none"> • Acquainting students with the preparation, writing and publishing of scientific and research work. • Acquainting students with scientific journals and and impacts factors. • Acquainting students with Cobiss and Sicris databases. • Training students to independently prepare scientific articles. • Training students for preparing and implementing scientific and research projects. • Acquainting students with copyrights in research work and publishing of scientific work. • The goal of the course is applied use of knowledge which a student has gained during his/her studies, gaining communication skills, teamwork, etc. <p>Competencies:</p> <ul style="list-style-type: none"> • Learn to analyse complex and contradictory factors and explain research results • Ability to independently plan research work and define appropriate methods • Are able to perform research work with minimal guidance • Are trained to communicate individually in professional debates related to their research work • Get familiar and understand publishing process.

- Spoznajo in razumejo pomen publiciranja raziskovalnega dela.



Predvideni študijski rezultati:

- Ob zaključku predmeta bo študent zmožen:
- Zasnovati načrt raziskave in izvesti raziskavo z minimalnim vodenjem.
 - Definirati možnosti in načine publiciranja.
 - Razumeti proces raziskovalnih projektov, od ideje do zaključka raziskave. Sposobnost iskanja in pregleda publikacij ter objavljanja znanstvenih rezultatov.
 - Analizirati podatke ter interpretirati spoznanja s področja pregleda znanstvene literature.
 - Pripraviti in jasno predstaviti znanstveni prispevek na delavnici, konferenci, seminarju.
 - Povezati teoretična znanja s področja predmetov študijskega programa in jih uporabiti za izvajanje zastavljenih nalog.
 - Rešiti zastavljen logistični problem, opisan v članku, ki je praviloma osnova za magistrsko delo.
 - Spretnosti komuniciranja in dela v skupini: ob komuniciranju in delu z drugimi znanstveniki.
 - Reševanje problemov: z iskanjem rešitev pri zastavljenih nalogah.

Intended learning outcomes:

- On completion of the course the student will be able to:
- Knowledge of planning and defining research work with minimal guidance.
 - Knowledge of the meaning and methods of publishing.
 - Understanding the process of research from the generation of idea to the completion of the project. And publishing papers.
 - Ability to analyse data and synthesise new findings based on systematic literature review.
 - Ability to prepare (submit) and present a scientific paper to the workshop, conference, seminar.
 - Integrate theoretical knowledge covered in all the courses of the study programme and use it to perform the given assignments,
 - Solve the given logistical problem discussed in an article, which usually serves as a basis for a diploma work.
 - Communication and teamwork: by communicating and working with other researchers.
 - Problem solving: by finding solutions to given assignments.

Metode poučevanja in učenja:

Predmet vključuje različne metode poučevanja in učenja, kot so: predavanja, razprava, seminarsko delo in samostojni študij študentov. Del študija se izvaja v predavalnici, del pa v e-obliki. Del samostojnega študija predstavlja tudi udeležba na seminarjih, konferencah, delavnicah, zagovorih zaključnih del. Študent mora opraviti določeno število ur znanstveno raziskovalnega dela v laboratoriju na FL. Po opravljenem delu pod nadzorom mentorja pripravi članek, ki ga na koncu javno predstavi.

Learning and teaching methods:

The subject comprehends several methods of teaching and learning, such as: lectures, discussion, seminar work and individual studying/research work. A part of study is in the classroom and a part as an e-study. A part of individual research work should be organized as participation on conferences, seminars, workshops, thesis presentations etc. A student must do a certain amount of hours of scientific 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:
• Ocena predstavitve rezultatov raziskovalnega dela.	20%	• Evaluation of the results from the research work.
• Raziskovalna naloga.	50%	• Research work.

• Udeležba na znanstveni mednarodni delavnici, konferencah, seminarjih, zagovoril.	30%	• Participation at the international scientific workshop, conference, seminar, ...
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Reference nosilca / Course coordinator's references:

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. [COBISS.SI-ID 26988291].

OBRECHT, Matevž, KAZANCOGLU, Yigit, DENAC, Matjaž. Integrating social dimensions into future sustainable energy supply networks. International journal of environmental research and public health, ISSN 1660-4601, 2020, vol. 17, str. 1-18, ilustr. <https://doi.org/10.3390/ijerph17176230>, doi: 10.3390/ijerph17176230. [COBISS.SI-ID 27031299].

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. [COBISS.SI-ID 512988989].

DENAC, Matjaž, OBRECHT, Matevž, RADONJIČ, Gregor. Current and potential ecodesign integration in small and medium enterprises : construction and related industries. Business strategy and the environment, ISSN 0964-4733, 2018, vol. 27, no. 7, str. 825-837, doi: 10.1002/bse.2034. [COBISS.SI-ID 12985372].