

**UČNI NAČRT PREDMETA / COURSE SYLLABUS**

Ime predmeta: ZNANSTVENO RAZISKOVANJE  
 Course title: SCIENTIFIC RESEARCH WORK

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 <sup>nd</sup> 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
2 a-P		2 e-V 8 a-V			288	10

Nosilec predmeta / Course coordinator:

TOMAŽ KRAMBERGER

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 2<sup>nd</sup> year of study.

Vsebina (kratek pregled učnega načrta):

Študent, ki se je že priključil k raziskovalnemu delu v enem izmed laboratorijev, v okviru predmeta Uvod v znanstveno raziskovanje, 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.

Content (syllabus outline):

A student who has already joined scientific research work in one of the laboratories in the framework of the course "Introduction into scientific 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.

Temeljni literatura in viri / Reading materials:

E-gradivo predmeta.  
 Carey, S. S. (2011). *A beginner's guide to scientific method*. 4th ed. Wadsworth: Cengage Learning.

**Cilji in kompetence:**

Cilj predmeta je aplikativna uporaba znanj, ki jih študent pridobi tekom študija, pridobivanje komunikacijskih spretnosti, dela v timu ipd. Študent po zaključku predmeta zna izvesti aplikativno raziskavo in znanstveno predstaviti rezultate.

**Objectives and competences:**

The goal of the course is applied use of knowledge which a student has gained during his/her studies, gaining communication skills, teamwork, etc. On completion of the course, the student will be able to carry out the applied research and to scientifically present the results.

**Predvideni študijski rezultati:**

Znanje in razumevanje:  
Po zaključku predmeta bo študent sposoben:

- 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.

Prenesljive/ključne spretnosti in drugi atributi:

- Spretnosti komuniciranja: ob komuniciranju z drugimi znanstveniki.
- Uporaba informacijske tehnologije: z uporabo programskih in drugih orodij potrebnih za izvedbo zastavljenih nalog.
- Reševanje problemov: z iskanjem rešitev pri zastavljenih nalogah.
- Delo v skupini: z delom z drugimi znanstveniki.

**Intended learning outcomes:**

Knowledge and Understanding:  
On completion of the course the student will be able to:

- 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.

Transferable/key skills and other attributes:

- Communication skills: by communicating with other researchers.
- The use of information technology: by using programmes and other tools necessary for the completion of the given assignment.
- Problem solving: by finding solutions to given assignments.
- Teamwork: by working with other researchers.

**Metode poučevanja in učenja:**

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:**

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:**

- Ocena članka,
- javna predstavitev.

Delež (v %) /

Share (in %)

**Assessment methods:**

- Report assessment,
- public presentation.

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

1. BUTTON, Kenneth John, CHIN, Anthony Thengheng, KRAMBERGER, Tomaž. Incorporating subjective elements into liners' seaport choice assessments. *Transport policy*, ISSN 0967-070X. [Print ed.], 2015, vol. 44, str. 125-133. [COBISS.SI-ID 512686141], [JCR, SNIP, Scopus do 13. 10. 2015: št. citatov (TC): 0, čistih citatov (CI): 0].
2. KRAMBERGER, Tomaž, ŽEROVNIK, Janez. A contribution to environmentally friendly winter road maintenance: : optimizing road de-icing. *Transportation research. Part D, Transport and environment*, ISSN

- 1361-9209. [Print ed.], July 2008, vol. 13, iss. 5, str. 340-346. <http://dx.doi.org/10.1016/j.trd.2008.03.007>, doi: 10.1016/j.trd.2008.03.007. [COBISS.SI-ID 512061757], [JCR, SNIP, WoS do 8. 3. 2015: št. citatov (TC): 5, čistih citatov (CI): 4, Scopus do 8. 1. 2015: št. citatov (TC): 5, čistih citatov (CI): 4].
3. BUTTON, Kenneth John, KRAMBERGER, Tomaž, VIZINGER, Tea, INTIHAR, Marko. Economic implications for Adriatic seaport regions of further opening of the Northern Sea Route. *Maritime economics & logistics*, ISSN 1479-294X. [Spletna izd.], ilustr. <http://www.palgrave-journals.com/mel/journal/vaop/ncurrent/abs/mel201525a.html>, doi: 10.1057/mel.2015.25. [COBISS.SI-ID 512702781], [JCR, SNIP].
4. KRAMBERGER, Tomaž, ŽEROVNIK, Janez, ŠTRUBELJ, Gregor, PRAH, Klemen. GIS technology as an environment for testing an advanced mathematical model for optimization of road maintenance. *Central European Journal of Operations Research*, ISSN 1435-246X, June 2013, vol. 21, issue 1-Supplement, str. 59-73, doi: 10.1007/s10100-012-0265-4. [COBISS.SI-ID 512429885], [JCR, SNIP, WoS do 17. 9. 2013: št. citatov (TC): 1, čistih citatov (CI): 0, Scopus do 3. 7. 2015: št. citatov (TC): 2, čistih citatov (CI): 1].