

**UČNI NAČRT PREDMETA / COURSE SYLLABUS**

<b>Ime predmeta:</b>	OSNOVE RAČUNALNIŠTVA V LOGISTIKI
<b>Course title:</b>	FUNDAMENTALS OF COMPUTER SCIENCE IN LOGISTICS

<b>Študijski program in stopnja</b> <b>Study programme and cycle</b>	<b>Študijska smer</b> <b>Study option</b>	<b>Letnik</b> <b>Year of study</b>	<b>Semester</b> <b>Semester</b>
GOSPODARSKA IN TEHNIŠKA LOGISTIKA 1. stopnja		1.	1.
PROFESSIONAL HIGHER EDUCATION STUDY PROGRAMME ECONOMIC AND TECHNICAL LOGISTICS 1 <sup>st</sup> degree		1.	1.

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

<b>Univerzitetna koda predmeta / University course code:</b>	VS
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<b>Predavanja</b> <b>Lectures</b>	<b>Seminar</b> <b>Seminar</b>	<b>Vaje</b> <b>Tutorial</b>	<b>Klinične vaje</b> <b>Clinical training</b>	<b>Druge oblike študija</b> <b>Other forms of study</b>	<b>Samost. delo</b> <b>Individual work</b>	<b>ECTS</b>
18 e-P 24 a-P		18 e-V 30 a-V			90	6

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

<b>Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:</b>	<b>Prerequisites for enrolling in the course or for performing study obligations:</b>
Ni pogojev.	None.

<b>Vsebina (kratek pregled učnega načrta):</b>	<b>Content (syllabus outline):</b>
1. Informacijska tehnologija in logistika: organizacijski vidik podjetja, nivoji odločanja v podjetju, struktura logističnih informacijskih sistemov (LIS), IT kot platforma LIS. 2. Avtomatizirana obdelava podatkov: oblike podatkov (števila, črke, slike, zvok, črtne kode, RFID), Shannonova teorija informacij, Amdahllov zakon, Mooreov zakon, algoritmi,... 3. Informacijska tehnologija (IT): računalniška strojna oprema, komunikacijska omrežja, računalniška programska oprema, računalniške platforme.	1. Information technology and logistics: organizational view of an enterprise, levels of decision making in an enterprise, logistics information systems (LIS) structure, IT as LIS platform. 2. Automated data processing: data formats (numbers, letters, pictures, sound, bar code, RFID), Shannon's theory of information, Amdahl's law, Moore's law, algorithms, ... 3. Information technology (IT): computer hardware, network, computer software, computing platforms.

4. Računalniška podpora odločanju (DSS): binarni, kvalitativni, kvantitativni kazalniki, analitika, več parametrsko odločanje.	4. Computer aided decision making (DSS): binary, qualitative, quantitative indicators, analytics, multi-criteria decision making.
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**Temeljni literatura in viri / Reading materials:**

Gumzej, R. (2013). Računalništvo in informatika v logistiki, Celje: Fakulteta za logistiko. ISBN 978-961-6562-87-4, 978-961-6562-86-7.

Gumzej, R. (2012). Črtna koda še v prednosti pred RFID : ko bodo razvijalci tehnologije RFID povečali njeno zanesljivost in znižali ceno, se bo lahko postavila ob bok sistemu črtne kode. Finance, 30. avg. 2012, št. 166, str. 30-31, ilustr., fotogr. ISSN 1318-1548.

Rainer, R. K. & Turban, E. (2008). Introduction to Information Systems: Supporting and Transforming Business. John Wiley and Sons, 2nd edition.

Franco, L.A.; Montibeller, G. (2010). Problem structuring for multicriteria decision analysis interventions. Wiley Encyclopedia of Operations Research and Management Science. doi:10.1002/9780470400531.eorms0683. ISBN 9780470400531.

White, R. (2006). How Computers Work. QuE.

**Cilji in kompetence:**

Cilji predmeta so:

- uporaba IT za avtomatizirano obdelavo podatkov v logistiki.

Kompetence, ki jih študenti osvojijo:

- poznavanje konceptov logističnih informacijskih sistemov s pridruženimi nivoji odločanja v podjetju,
- razumevanje osnovnih konceptov IT,
- uporaba IT pri podpori odločanju.

**Objectives and competences:**

Course objectives are:

- use of IT for automated data processing in logistics.

Competences acquired by students:

- knowing the logistics information systems concepts with associated levels of enterprise decision making,
- understanding of basic IT concepts,
- use of IT in decision making.

**Predvideni študijski rezultati:**

Študent bo po zaključku predmeta zmožen:

- aplicirati osnovno terminologijo računalništva v logistiki,
- izbrati ustrezno računalniško opremo za logistične aplikacije,
- napredne uporabe pisarniške programske opreme,
- obdelati, analizirati in predstaviti logistične podatke z ustreznimi računalniškimi orodji.

**Intended learning outcomes:**

Upon completion of the course a student will be capable of:

- applying fundamental computer science terms in logistics,
- choosing appropriate computing equipment for logistics applications,
- advanced use of office automation systems,
- processing, analysis, and presentation of logistic data with appropriate computing tools.

**Metode poučevanja in učenja:**

Predavanja: pri predavanjih študenti spoznajo teoretične osnove predmeta. Predavanja potekajo v živo v predavalnici pa tudi v obliki e-predavanj na videokonferenčni način ter preko namenskih e-učilnic v e-učnem okolju.

Vaje: pri vajah študenti utrdijo teoretično znanje in se ga naučijo uporabiti. Vaje potekajo v živo v

**Learning and teaching methods:**

Lectures: during lectures students are familiarised with the theoretical fundamentals of the course. Lectures take place live in the classroom as well as in the form of e-lectures via videoconferencing and dedicated e-classrooms in the e-learning environment.

predavalnici pa tudi v obliki e-vaj na videokonferenčni način ter preko namenskih e-učilnic v e-učnem okolju.

Tutorials: during tutorials students consolidate their theoretical knowledge and learn to apply it. The tutorials are held live in the classroom as well as in the form of e-tutorials via videoconferencing and dedicated e-classrooms in the e-learning environment.

<b>Načini ocenjevanja:</b>	Delež (v %) / Share (in %)	<b>Assessment methods:</b>
Način (pisni izpit, ustno izpraševanje, naloge, projekt): <ul style="list-style-type: none"> <li>• naloge</li> <li>• pisni izpit</li> </ul>	50% 50%	Method (written or oral exam, coursework, project): <ul style="list-style-type: none"> <li>• coursework</li> <li>• written exam</li> </ul>

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

1. KMETEC, Anja, MLAKER KAČ, Sonja, GUMZEJ, Roman. How to estimate strategic partnerships on the basis of quality criteria in logistics systems. International journal of applied logistics. [Online]. 2021, vol. 11, iss. 1, str. 52-65, tabele. ISSN 1947-9581. <https://www.igi-global.com/article/how-to-estimate-strategic-partnerships-on-the-basis-of-quality-criteria-in-logistics-systems/269708>, DOI: 10.4018/IJAL.2021010104.
2. GUMZEJ, Roman, ROSI, Bojan. Automated authentication and authorisation of consignors and their consignments within secure supply chains : Elektronski vir. Tehnički vjesnik. 2018, vol. 25, iss. 1, str. 203-209. ISSN 1848-6339. [https://hrcak.srce.hr/index.php?show=clanak&id\\_clanak\\_jezik=285638](https://hrcak.srce.hr/index.php?show=clanak&id_clanak_jezik=285638).
3. GUMZEJ, Roman. Engineering safe and secure cyber-physical systems : the specification PEARL approach, (Studies in computational intelligence, vol. 632). [S. l.]: Springer, cop. 2016. XIII, 128 str., ilustr. ISBN 978-3-319-28903-8.
4. RASHAD, Waleed, GUMZEJ, Roman. The information technology in supply chain integration : case study of Reda Chemicals with Elemica. International journal of supply chain management. [Spletna izd.]. Mar. 2014, vol. 3, no. 1, str. 62-69. ISSN 2050-7399. <http://ojs.excelingtech.co.uk/index.php/IJSCM/article/view/876/pdf>.
5. GUMZEJ, Roman, HALANG, Wolfgang A. Real-time systems' quality of service : introducing quality of service considerations in the life-cycle of real-time systems. London [etc.]: Springer, 2010. XIX, 131 str., ilustr. ISBN 978-1-84882-847-6, ISBN 1-84882-847-0, ISBN 1-84882-848-9, ISBN 978-1-84882-848-3. DOI: 10.1007/978-1-84882-848-3.