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| **UČNI NAČRT PREDMETA / COURSE SYLLABUS** |
| **Ime predmeta:** | INFORMATIKA IN INFORMACIJSKA VARNOST V LOGISTIČNIH PROCESIH |
| **Course title:** | FUNDEMENTALS INFORMATICS AND INFORMATION SECURITY IN LOGISTICS PROCESSES |
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| **Študijski program in stopnja****Study programme and cycle** | **Študijska smer****Study option** | **Letnik****Year of study** | **Semester****Semester** |
| GOSPODARSKA IN TEHNIŠKA LOGISTIKA 1. stopnja |  | 1. | 2 |
| PROFESSIONAL HIGHER EDUCATION STUDY PROGRAMME ECONOMIC AND TECHNICAL LOGISTICS 1st degree |  | 1. | 2 |
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| **Vrsta predmeta (obvezni ali izbirni) /** **Course type (compulsory or elective)** | OBVEZNI |
| COMPULSORY |
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| **Univerzitetna koda predmeta / University course code:** | VS |
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| **Predavanja****Lectures** | **Seminar****Seminar** | **Vaje****Tutorial** | **Klinične vaje****Clinical training** | **Druge oblike študija****Other forms of study** | **Samost. delo****Individual work** |  | **ECTS** |
| 15 e-P24 a-P |  | 15 e-V24 a-V |  |  | 102 |  | 6 |
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| **Nosilec predmeta / Course coordinator:** | **BORUT JEREB** |
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| **Jeziki /Languages:** | **Predavanja / Lectures:** | SLOVENSKI/SLOVENE |
| **Vaje / Tutorial:** | SLOVENSKI/SLOVENE |
| **Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:** |  | **Prerequisites for enrolling in the course or for performing study obligations:** |
| Ni pogojev. |  | No limitations. |
| **Vsebina (kratek pregled učnega načrta):**  |  | **Content (syllabus outline):** |
| 1. Osnove informatike in informacijske varnosti
	1. Definicije nekaterih najpogosteje uporabljanih izrazov s področja informatike.
	2. Uporaba IT kot orodja za doseganje ciljev v logističnih procesih.
	3. IT kot podpora v procesih odločanja.
2. Kibernetska varnost in načrtovanje varovanja
	1. Razumevanje upravljanja tveganj
	2. Pomen in dobre prakse pri izvajanju varnostnega kopiranja
	3. Razumevanje problema računalniških vdorov
	4. Razumevanje in analiza problema upravljanja informacijskih varnostnih incidentov
3. Investicije v IT
	1. Razumevanje IT investicij pri izvajanju logističnih procesov
	2. Razumevanje upravljanja IT investicij s pomočjo Val IT
4. Ocena kakovosti programskih rešitev za podporo delovanju logistike
	1. Standard ISO/IEC 12207:1995 z amandmaji
	2. Standard ISO/IEC 90003:2004
	3. Standard ISO/IEC 25000:2005, ISO/IEC 25051:2006 in ISO/IEC 25062/2006
 |  | 1. Basics of informatics and information security
	1. Definitions of some most used expressions from the field of informatics.
	2. Using IT a a tool to achieve the organization’s goals
	3. IT support operational decisions and guidance in decision-making processes.
2. Cyber security and security planning
	1. Understanding risk management
	2. Importance and good practices when performing backup
	3. Understanding the problem of computer intrusion
	4. Understanding and analyzing the problem of information security incidents
3. Investments in IT
	1. Understanding It Investments In The Implementation of Logistics Processes
	2. Understanding IT Investment Management with Val IT
4. Quality assessment of software solutions to support the operation of Logistics
	1. Standard ISO/IEC 12207:1995 with amandments
	2. Standard ISO/IEC 90003:2004
	3. Standard ISO/IEC 25000:2005, ISO/IEC 25051:2006 in ISO/IEC 25062/2006
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| **Temeljni literatura in viri / Reading materials:** |
| * JEREB, Borut. Informatika in informacijska varnost : repetitorij. 1. izd. Maribor: Univerzitetna založba Univerze, 2019. ISBN 978-961-286-251-0. http://press.um.si/index.php/ump/catalog/book/385, doi: 10.18690/978-961-286-251-0.
* JEREB, Borut, KUKOVIČ, Darja, ŠTRUBELJ, Gregor*. Uporaba računalniških orodij za podporo pisarniškemu poslovanju : izbrana poglavja*. Celje: Fakulteta za logistiko, 2015. 156 str., ilustr. ISBN 978-961-6962-09-4.
* JEREB, Borut. Upravljanje tveganj. Celje: Univerza v Mariboru, Fakulteta za logistiko, 2014. 103 str., ilustr. ISBN 978-961-6962-04-9. http://labinf.fl.uni-mb.si/upravljanje-tveganj/.
* JEREB, Borut. Večparametrski odločitveni model za logistike z dodanimi večpredstavnimi vsebinami : visokošolski učbenik z recenzijo. Celje: Fakulteta za logistiko, 2015. ISBN 978-961-6962-15-5. http://labinf.fl.uni-mb.si/vecparametrski-odlocitveni-model/. [COBISS.SI-ID 282247936].
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| **Cilji in kompetence:** |  | **Objectives and competences:** |
| Cilji:* spoznajo vlogo in definicijo informatike ter informacijske varnosti,
* spoznajo in razumejo IT kot orodje za doseganje ciljev v logističnih procesih,
* spoznajo, razumejo in znajo razložiti tveganja, pomen varnostnega kopiranja, problem računalniških vdorov in problem upravljanja informacijskih varnostnih incidentov ,
* razumejo vrednost zaščite in investicij pri izvajanju logističnih procesov,
* spoznajo in znajo uporabljati način ocenjevanja kakovosti programskih rešitev za podporo delovanju logističnih procesov.

Kompetence:* so sposobni kritičnega ravnanja v kriznih situacijah (kot: odpoved delovanja WMS v visoko informatiziranem skladišču ali od vdoru v sistem QMS in odtujitvi občutljivih informacij ali ob blokiranju pravilnega delovanja WMS),
* so sposobni kritično ovrednotiti tveganja in predvideti potrebne finančne vire v namene vlaganja v informacijsko zaščito, da se doseže zahtevana in primerna informacijska varnost,
* so sposobni ovrednotiti in oceniti raven pomembnosti zaščite na primer WMS, katerega »lastniki so« in za katerega so tudi »odgovorni«,
* so sposobni kritično presoditi vrednost zaščite (investicije) v zahtevano razpoložljivost, celovitost in zaupnost informacijskih virov, kar se »izračuna« na osnovi principov upravljanja tveganj in izvede v skladu z investicijskim načrtom za IT,
* so sposobni ovrednotiti in oceniti kakovost programskih rešitev, na podlagi česar sprejmejo odločitev za uvedbo primerne programske rešitve,
* so kot uporabniki (in odgovorne osebe) programskih rešitev sposobni kritično oceniti vse tri nivoje le teh: 1) programski produkt z vsemi njegovimi specifičnostmi, 2) sposobnost delovanja v (že obstoječem) sistemu IT in 3) prizmo uporabniške ergonomije ter izkušnje.
 |  | Objectives:* get acquainted with the role and definition of informatics and information security,
* get acquainted with and understand IT as a tool for achieving goals in logistics processes
* get acquainted with, understand and can explain risks, the importance of backup, the problem of computer intrusions and the problem of information security incident management,
* understand the value of protection and investments in the logistics processes implementation,
* get acquainted with and be able to use the method of assessing the quality of software solutions to support the operation of logistics processes.

Competences:* are capable of critical handling in crisis situations (such as: failure of WMS operation in a highly computerized warehouse or from intrusion into QMS system and alienation of sensitive information or by blocking proper operation of WMS),
* are capable to critically evaluate risks and anticipate the necessary financial resources for the purpose of information security investments in order to achieve the required and appropriate information security,
* are capable to evaluate and assess the level of protection importance, for example of WMS, of which they are "owners", and are also "responsible" for,
* are capable to critically assess the value of protection (investment) in the required availability, integrity and confidentiality of information resources, which is "calculated" on the basis of risk management principles and carried out in accordance with the IT investment plan,
* are capable to evaluate and assess the software solutions quality, on the basis of which they make a decision to introduce an appropriate software solution,
* as users (and responsible persons) of software solutions are capable to critically assess all three levels of the latter: 1) software product with all its specifics, 2) the ability to operate in an (already existing) IT system and 3) the prism of user ergonomics and experience
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| **Predvideni študijski rezultati:** |  | **Intended learning outcomes:** |
| Študent bo ob zaključku predmeta zmožen:* poznavanja ter pojasnjevanja pomena informatike in informacijske varnosti v organizacijah,
* prepoznavanja pomena varnostnega kopiranja za organizacije, kot osnovnega ter najenostavnejšega pristopa za zagotavljanje razpoložljivosti in celovitosti informacij,
* prepoznavanja, pojasnjevanja in razločevanja med tveganji, računalniškimi vdori in informacijskimi varnostnimi incidenti,
* poznavanja, analiziranja, obravnavanja, strukturiranja in obvladovanja IT investicij,
* povezovanja, razločevanje in ocenjevanja različnih programskih rešitev.

Prenesljive/ključne spretnosti in drugi atributi:* študenti se usposobijo za uporabo teoretičnega znanja v praktičnih (poslovnih) primerih.
 |  | Upon completion, the student will be able to:* comprehend and explain the importance of informatics and information security in organizations,
* recognize the importance of backup for organizations as a basic and simplest approach to ensuring the availability and integrity of information,
* dentify, explain and distinguish between risks, computer intrusions and information security incidents,
* comprehend, analyze, address, structure and manage IT investments,
* integrate, differentiate and evaluate different software solutions.

Transferable /Key Skills and other attributes:* students gain the ability to apply theoretical knowledge to practical (professional) examples.
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| **Metode poučevanja in učenja:** |  | **Learning and teaching methods:** |
| Teoretična predavanja, praktične vaje, samostojno delo, seminarske naloge, vodene debate, treningi.Predavanja: pri predavanjih študent spozna teoretične vsebine predmeta. Del predavanj se izvaja na klasični način v predavalnici, del pa v obliki e-predavanj (e-predavanja se lahko izvajajo na videokonferenčni način ali s pomočjo posebej v ta namen didaktično pripravljenih e-gradiv v virtualnem elektronskem učnem okolju).Vaje: pri vajah študent utrdi teoretično znanje in spozna aplikativne možnosti. Del vaj se izvaja na klasični način v predavalnici, del pa v obliki e-vaj (e-vaje se lahko izvajajo na videokonferenčni način ali s pomočjo posebej v ta namen didaktično pripravljenih e-gradiv v virtualnem elektronskem učnem okolju). |  | Theoretical lectures, practical exercises, individual work, seminar papers, moderated debates, trainings.Lectures: students understand the theoretical frameworks of the course. Part of the lecture course is in a classroom while the rest is in the form of e-learning (e-lectures may be given via video-conferencing or with the help of specially designed e-material in a virtual electronic learning environment).Tutorials: Students enhance their theoretical knowledge and are able to apply it. Part of the seminar is in a classroom while the rest is in the form of e-learning (e-tutorials may be given via video-conferencing or with the help of specially designed e-material in a virtual electronic learning environment). |
| **Načini ocenjevanja:** | Delež (v %) /Share (in %) | **Assessment methods:** |
| * Opravljene obveznosti e-predavanj so pogoj za pristop k izpitu.
* Opravljene obveznosti e-vaj so pogoj za pristop k izpitu.
* Seminarska naloga.
* Pisni izpit.
 | **15%****15%**10%60% | * Successful completion of e-lectures is a prerequisite for entering the exam.
* Successful completion of e-tutorial is a prerequisite for entering the exam.
* Seminar work.
* Written examination.
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| **Reference nosilca / Course coordinator's references:**  |
| 1. JEREB, Borut. Informatika in informacijska varnost : repetitorij. 1. izd. Maribor: Univerzitetna založba Univerze, 2019. ISBN 978-961-286-251-0. http://press.um.si/index.php/ump/catalog/book/385, doi: 10.18690/978-961-286-251-0.
2. JEREB, Borut, STOPKA, Ondrej, SKRÚCANÝ, Tomáš. Methodology for estimating the effect of traffic flow management on fuel consumption and CO2 production : a case study of Celje, Slovenia. Energies, ISSN 1996-1073, 2021, vol. 14, iss. 6, str. [1]-18, ilustr. https://doi.org/10.3390/en14061673, doi: 10.3390/en14061673.
3. 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
4. JEREB, Borut, BATKOVIČ, Tanja, HERMAN, Luka, ŠIPEK, Gregor, KOVŠE, Špela, GREGORIČ, Asta, MOČNIK, Griša. Exposure to black carbon during bicycle commuting - alternative route selection. Atmosphere, ISSN 2073-4433, 2018, vol. 9, no. 1, str. 1-12. https://www.mdpi.com/2073-4433/9/1/21, doi: 10.3390/atmos9010021.
5. JEREB, Borut. Mastering logistics investment management. Transformations in business & economics, ISSN 1648-4460, 2017, vol. 16, no. 1, str. 100-120, ilustr. http://www.transformations.knf.vu.lt/40.
6. JEREB, Borut. The model for risk management and mastering them in supply chain. V: KOLINSKI, Adam (ur.), DUJAK, Davor (ur.), GOLINSKA-DAWSON, Paulina (ur.). Integration of information flow for greening supply chain management, (Ecoproduction (Berlin. Internet), ISSN 2193-4622). Cham: Springer. cop. 2020, str. 339-373. https://doi.org/10.1007/978-3-030-24355-5.
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