|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **UČNI NAČRT PREDMETA / COURSE SYLLABUS** | | | | | | | | | | | | | | | | | | |
| **Ime predmeta:** | | TEORIJA SISTEMOV | | | | | | | | | | | | | | | | |
| **Course title:** | | SYSTEM THEORY | | | | | | | | | | | | | | | | |
|  | | | | |  | | | | | | | | |  | |  | | |
| **Študijski program in stopnja**  **Study programme and cycle** | | | | | **Študijska smer**  **Study option** | | | | | | | | | **Letnik**  **Year of study** | | **Semester**  **Semester** | | |
| LOGISTIKA SISTEMOV 1. stopnja | | | | |  | | | | | | | | | 2. | | 3. | | |
| SYSTEM LOGISTICS 1st degree | | | | |  | | | | | | | | | 2. | | 3. | | |
|  | | | | | | | | | | | | | | | | | | |
| **Vrsta predmeta (obvezni ali izbirni) /**  **Course type (compulsory or elective)** | | | | | | | | | | | | | OBVEZNI | | | | | |
| COMPULSORY | | | | | |
|  | | | | | | | | | | | | |  | | | | | |
| **Univerzitetna koda predmeta / University course code:** | | | | | | | | | | | | | UN | | | | | |
|  | | | | | | | | | | | | | | | | | | |
| **Predavanja**  **Lectures** | **Seminar**  **Seminar** | | | **Vaje**  **Tutorial** | | | **Klinične vaje**  **Clinical training** | | | | | **Druge oblike študija**  **Other forms of study** | | | **Samost. delo**  **Individual work** | |  | **ECTS** |
| 39 a-P  21 e-P |  | | | 12 e-V  18 a-V | | |  | | | | |  | | | 120 | |  | 6 |
|  |
|  |
|  | | | | | | | | | | | | | | | | | | |
| **Nosilec predmeta / Course coordinator:** | | | | | **BOJAN ROSI** | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | |
| **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. | | | | | | | | |  | None. | | | | | | | | |
| **Vsebina (kratek pregled učnega načrta):** | | | | | | | |  | | **Content (syllabus outline):** | | | | | | | | |
| * Uvod v teorijo sistemov. * Razvoj teorije sistemov. * Splošne karakteristike sistemov. * Principi sistemov: lastnosti sistemov, struktura in delovanje sistemov, stanje sistema, sistemski procesi. * Modeliranje in simulacije sistemov. * Variante teorije sistemov: FUZZY, teorija živih sistemov, metodologija mehkih sistemov, teorija viabilnih sistemov, kritično sistemsko razmišljanje, dialektična teorija sistemov. * Konvergentno, divergentno in ustvarjalno/inovativno razmišljanje * Teorija omrežnega razmišljanja * Sistemska metodlogija dialektično-omrežnega razmišljanja. * Sistemske značilnosti pametnih mest in skupnosti * Sistemski pristop k obvladovanju kompleksnih sistemov na primerih pametnih mest in skupnosti | | | | | | | |  | | * Introduction to the system theory. * Development of the system theory. * General characteristics of systems. * Principles of systems: characteristics of systems, structure and functioning of systems, the state of a system, system processes. * Modelling and simulations of systems. * Variant theories of systems: fuzzy, living system theory, soft systems methodology, system theory, critical system thinking, dialectical systems theory . * Convergent, divergent and creative/innovative thinking * Theory of network thinking * System methodology of dialectical networked thinking. * System characteristics of smart cities and communities * A systemic approach to the management of complex systems on the examples of smart cities and communities | | | | | | | | |
| **Temeljni literatura in viri / Reading materials:** | | | | | | | | | | | | | | | | | | |
| Bertalanffy, v. L. (1979). Ge*neral Systems Theory, Foundations, Development, Applications, Revised Edition*. Sixth Printing, New York, Brazillier.  Rosi, B. (2008). Ali ste pripravljeni dialektično omrežno razmišljati? Maribor, RoBo.  Mulej, M. (2000). *Dialektična in druge mehkosistemske teorije*. Maribor: Ekonomsko-poslovna fakulteta, Univerza v Mariboru.  ROSI, Bojan. *Smart solutions in the Tezno Business Production Zone in Maribor and upgrade design*. Celje: Fakulteta za logistiko, 2022. 1 spletni vir (1 PDF datoteka (9 str.)), ilustr. <http://fl.um.si/knjiznicaFL/eknjige/Rosi_2021_Smart_solutions_in_the_Tezno_Business_Production_Zone.pdf>. | | | | | | | | | | | | | | | | | | |
| **Cilji in kompetence:** | | | | | | | |  | | **Objectives and competences:** | | | | | | | | |
| Cilji predmeta so:   * razumevanje ključnih pojmov/lastnosti iz teorije sistemov * razumevanje najbolj razširjenih variant teorij sistemov * razumevanje ustrezne uporabe sistemskega razmišljanja in sistemskega pristopa pri prepoznavanju in razreševanju kompleksnih problemov   Kompetence: študent je zmožen sistemsko razmišljati in prepoznati kompleksnost problemskih stanj. Pri tem je zmožen uporabiti sistemski pristop, ki je nujen za celovito razreševanje kompleksnih problemov. | | | | | | | |  | | The objectives of the course are:   * understanding of key concepts/features from systems theory * understanding the most common variants of systems theories * understanding the appropriate use of systems thinking and a systems approach in identifying and solving complex problems   Competences: the student can think systematically and recognize the complexity of problem situations. In doing so, he can use the systems approach necessary for a comprehensive solution to complex problems. | | | | | | | | |
| **Predvideni študijski rezultati:** | | | | | | | | |  | **Intended learning outcomes:** | | | | | | | | |
| Po uspešno zaključenem predmetu so študenti zmožni:   * opisati ključni namen teorije sistemov, * uporabiti in oblikovati sistemski pristop pri reševanju kompleksnih problemov, * razlikovati temeljne značilnosti posameznih teorij sistemov, * uporabiti sistemsko metodologijo, * doseči želen nivo celovitosti pri razreševanju kompleksnih problemov. | | | | | | | | |  | Upon successful completion of this course, students can:   * describe the critical purpose of systems theory, * use and design a systematic approach to solving complex problems, * distinguish the essential characteristics of individual systems theories, * use a system methodology, * achieve the desired level of integrity in solving complex problems. | | | | | | | | |
| **Metode poučevanja in učenja:** | | | | | | | | |  | **Learning and teaching methods:** | | | | | | | | |
| 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. Praktične strokovne ekskurzije v podjetja v RS. Aktivno sodelovanje gostujočih strokovnjakov.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). | | | | | | | | |  | 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 can apply it. Active participation of visiting experts. 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:** | | | | | | | |
| * Pisni izpit * E-vaje in E-predavanja * Predstavitev seminarske/projektne naloge v okviru vaj   Opravljene obveznosti (e-predavanja, e-vaje in seminarska/projektna naloga) so pogoj za pristop k izpitu. | | | | | | 70 %  10 %  20 % | | | | | * Written examination * E-lectures and E-tutorials * Presentation of a seminar/project work at tutorials   Successful completion of e-lectures, e tutorials and presentation of a seminar/project work at tutorials is a prerequisite for entering the exam. | | | | | | | |
| **Reference nosilca / Course coordinator's references:** | | | | | | | | | | | | | | | | | | |
| 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>. [COBISS.SI-ID [512898365](https://plus.cobiss.net/cobiss/si/sl/bib/512898365)], [[JCR](https://plus.si.cobiss.net/opac7/jcr?c=sc=1330-3651+and+PY=2018&r1=true&lang=sl), [SNIP](https://plus.si.cobiss.net/opac7/snip?c=sc=1330-3651+and+PY=2018&r1=true&lang=sl), [WoS](http://gateway.isiknowledge.com/gateway/Gateway.cgi?GWVersion=2&SrcAuth=Alerting&SrcApp=Alerting&DestApp=WOS&DestLinkType=FullRecord&KeyUT=000425879800029), [Scopus](http://www.scopus.com/inward/record.url?partnerID=2dRBettD&eid=2-s2.0-85041901434)]  2. STERNAD, Marjan, JAGRIČ, Timotej, ROSI, Bojan. Railway usage charges based on marginal maintenance costs. *Proceedings of the Institution of Civil Engineers - Transport*. [Online ed.]. Feb. 2018, no. 1, vol. 171, str. 3-10. ISSN 1751-7710. <http://dx.doi.org/10.1680/jtran.15.00058>, DOI: [10.1680/jtran.15.00058](https://dx.doi.org/10.1680/jtran.15.00058). [COBISS.SI-ID [512834877](https://plus.cobiss.net/cobiss/si/sl/bib/512834877)]  6. HRIBAR, Gašper, PODBREGAR, Iztok, ROSI, Bojan. A model of citizens' trust in intelligence services. *Security journal*. vol. 35, str. [226]-247, ilustr. ISSN 1743-4645. <https://doi.org/10.1057/s41284-020-00275-x>, DOI: [10.1057/s41284-020-00275-x](https://dx.doi.org/10.1057/s41284-020-00275-x). [COBISS.SI-ID [65238787](https://plus.cobiss.net/cobiss/si/sl/bib/65238787)]. | | | | | | | | | | | | | | | | | | |