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| **UČNI NAČRT PREDMETA / COURSE SYLLABUS** | | | | | | | | | | | | | | | | | | | |
| **Ime predmeta:** | | PAMETNA IN VARNA MOBILNOST | | | | | | | | | | | | | | | | | |
| **Course title:** | | SMART AND SAFE MOBILITY | | | | | | | | | | | | | | | | | |
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| **Študijski program in stopnja**  **Study programme and cycle** | | | | | | **Študijska smer**  **Study option** | | | | | | | | | **Letnik**  **Year of study** | | **Semester**  **Semester** | | |
| LOGISTIKA SISTEMOV 2. stopnja | | | | | |  | | | | | | | | | 1. | | 2. | | |
| SYSTEM LOGISTICS 2nd 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:** | | | | | | | | | | | | | | MAG | | | | | |
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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** |
| 18 e-P  27 a-P |  | | |  | | | | | |  | | |  | | | 155 | |  | 8 |
| **AV** | **EV** | | **LV** | **RV** | |  | | |  | | |  |
|  | 15 | | 25 |  | |
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| **Nosilec predmeta / Course coordinator:** | | | | | | **DARJA TOPOLŠEK** | | | | | | | | | | | | | |
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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. | | | | | | | | | | |  | None. | | | | | | | |
| **Vsebina (kratek pregled učnega načrta):** | | | | | | | | | | |  | **Content (syllabus outline):** | | | | | | | |
| * Pametna mesta (struktura, standardi, ekološki ter družbeni vplivi pametnega mesta). * Mobilnost ljudi in blaga (tehnike in instrumenti za upravljanje mobilnosti, MaaS, MoD, načrti mobilnosti, načela celostnega načrtovanja) * Pametna mobilnost ljudi in blaga v urbanih območjih in skupnostih (mobilnostni sistemi in nadzorni/informacijski centri, kolektivna mobilnost in skupna raba vozil, koncepti mestne/urbane distribucijske logistike in konsolidacijski centri, blagovni tokovi). * ITS v navezavi s sistemi za omejevanje vstopa v urbana središča (okoljske cone/sheme, nadzor in regulacija parkiranja, ITS v javnem prevozu, interoperabilnost, RFID in NFC tehnologije. * Prometna varnost v okviru pametne mobilnosti. | | | | | | | | | | |  | * Smart cities (structure, standards, ecological and social impacts of a smart city). * Mobility of people and goods (mobility management techniques and instruments, MaaS, MoD, mobility plans, principles of integrated planning). * Smart mobility of people and goods in urban areas and communities (mobility systems and control/information centers, collective mobility and vehicle sharing, city/urban distribution logistics concepts and consolidation centers, commodity flows). * ITS in conjunction with systems for restricting access to urban centers (environmental zones/schemes, parking control and regulation, ITS in public transport, interoperability, RFID and NFC technologies. * Traffic safety in the context of smart mobility. | | | | | | | |
|  | | | | | | | | | | | | | | | | | | | |
| **Temeljni literatura in viri / Reading materials:** | | | | | | | | | | | | | | | | | | | |
| * Faulin, J., Grasma, S. E., Hircsh, P. (2019). Sustainable Transportation and Smart Logistics: Decision-Making Models and Solutions. Elsevier. * Berrone, Pascual; Ricart Costa, Joan Enric; Duch T-Figueras, Ana Isabel. (2016). Cities and mobility & transportation : towards the next generation of urban mobility. Barcelona: University of Navarra, Business School, IESE. * Rodrigue, Jean-Paul; Conway, Allison; Dablanc, Laetitia; Giuliano, Genevivieve; Lee, Jee-Sun; O'Brien, Tom. (2023), City Logistics: Concepts, Policy and Practice. New York: Routledge. https://globalcitylogistics.org/ * Eiza, Max; Cao, Yue; Xu, Lexi. (2020). Toward sustainable and economic smart mobility : shaping the future of smart cities. Hackensack : World Scientific. * Shroup, Donald. (2018). Parking and the city. New York ; London : Routlege, Taylor & Francis Group. * Kramarz, Marzena; Dohn, Katarzyna; Przybylska, Edyta; Jonek-Kowalska, Izabela. (2022). Urban logistics in a digital world : smart cities and innovation. Cham : Palgrave Macmillan, 2022 * Plevnik, Aljaž; Mladenovič, Luka; Rye, Tom; Balant, Mojca; Hudoklin, Andraž; Demšar Mitrovič, Polona. (2023). Potovali bomo udobneje, živeli bomo bolje : nacionalne smernice za pripravo Občinske celostne prometne strategije. Ljubljana: Ministrstvo za okolje, podnebje in energijo. * Evropska komisija. (2020). Strategija za trajnostno in pametno mobilnost – usmerjanje evropskega prometa na pravo pot za prihodnost. Bruselj: Evropska komisija. | | | | | | | | | | | | | | | | | | | |
| **Cilji in kompetence:** | | | | | | | | | | |  | **Objectives and competences:** | | | | | | | |
| Cilji predmeta so:   * opredeliti značilnosti mobilnosti ljudi in blaga * teoretično opredeliti in praktično razložiti strukturo, standarde in vplive pametnega mesta, * teoretično opredeliti pametno mobilnost ljudi in blaga v urbanih okoljih in to prenesti na primere iz prakse, * opredeliti ITS sisteme za omejevanje dostopa in njihov praktični prenos na realne probleme, * teoretično opredeliti prometno varnost v pametni mobilnosti in praktično razložiti vpliv varnosti na mobilnost, * praktično razložiti pristop k reševanju problematike pametne in varne mobilnosti ljudi in blaga.   Kompetence, ki jih pridobijo študenti:   * spoznajo in razumejo sistem in elemente pametne in varne mobilnosti ljudi in blaga, * spoznajo in razumejo ITS sisteme za omejevanje vstopa v urbana središča, * spoznajo in razumejo vpliv prometne varnosti na mobilnost ljudi/blaga, * se usposobijo za analiziranje, kritično ovrednotenje in za snovanje posameznih elementov pametne mobilnosti ljudi/blaga, * se usposobijo za prenos teoretičnega znanja na praktične probleme. | | | | | | | | | | |  | The objectives of the course are to:   * identify the characteristics of mobility of people and goods, * theoretically define and practically explain the structure, standards and impacts of a smart city, * theoretically define smart mobility of people and goods in urban environments and transfer this to practical examples, * identify ITS systems for access restrictions and their practical transfer to real problems, * theoretically define road safety in smart mobility and practically explain the impact of safety on mobility, * practically explain the approach to solving the problems of smart and safe mobility of people and goods.   Competences acquired by students:   * get to know and understand the system and elements of smart and safe mobility of people and goods, * get to know and understand ITS systems for restricting access to urban centers, * get to know and understand the impact of road safety on the mobility of people/goods, * are trained to analyze, critically evaluate and design individual elements of smart mobility of people/goods, * are trained to transfer theoretical knowledge to practical problems. | | | | | | | |
| **Predvideni študijski rezultati:** | | | | | | | | | | |  | **Intended learning outcomes:** | | | | | | | |
| Znanje in razumevanje:  Študent bo ob zaključku predmeta zmožen:   * razumeti pomen urejenega mobilnostnega sistema v logističnem sistemu, * razumeti in opredeliti elemente pametnega mesta in mobilnostnega sistema znotraj njih, * evalvirati pomen prometno varnostnega vidika v logističnem sistemu, * organizirati premik ljudi/blaga znotraj pametnih urbanih središč, * zbrati podatke o posameznem elementu pametne in varne mobilnosti ljudi/blaga, jih potem analizirati in ovrednotiti, ter odločati o predlogih | | | | | | | | | | |  | Knowledge and understanding:  After completion of the course, the student will be able to:   * understand the importance of an established mobility system in the logistics system, * understand and define the elements of a smart city and the mobility system within it, * evaluate the importance of the traffic safety aspect in the logistics system, * organize the movement of people/goods within smart urban centers, * collect data on individual elements of smart and safe mobility of people/goods, then analyze and evaluate them, and decide on proposals. | | | | | | | |
| **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 in druga okolja. 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 are able to apply it. Practical professional excursions to companies and other relevant environments. Part of the tutorials 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 in e-vaj so pogoj za pristop k izpitu.  Pisni izpit.  Raziskovalna naloga.  Ocene sprotnih aktivnosti pri predavanjih in e-predavanjih.  Ocene sprotnih aktivnosti pri vajah in e-vajah. | | | | | | | | | 60 %  20 %  10 %  10 % | | | | Successful completion of e-lectures and e-tutorials is a prerequisite for entering the exam.  Written examination.  Project work.  Grades from activities at lectures and e-lectures.  Grades from activities at tutorials and e-tutorials. | | | | | | |

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| **Reference nosilca / Course coordinator's references:** |
| * TOPOLŠEK, Darja, BABIĆ, Dario, BABIĆ, Darko, CVAHTE OJSTERŠEK, Tina. Factors influencing the purchase intention of autonomous cars. Sustainability. 2020, vol. 12, iss. 24, str. [1]-16, ilustr. ISSN 2071-1050. https://doi.org/10.3390/su122410303. [COBISS.SI-ID 42536963]. * CVAHTE OJSTERŠEK, Tina, TOPOLŠEK, Darja. Influence of drivers' visual and cognitive attention on their perception of changes in the traffic environment. European transport research review. [Online ed.]. 2019, vol. 11, no. 45, str. 1-9, ilustr. ISSN 1866-8887. https://doi.org/10.1186/s12544-019-0384-2, DOI: 10.1186/s12544-019-0384-2. [COBISS.SI-ID 513043773]. * KRAMAR, Uroš, DRAGAN, Dejan, TOPOLŠEK, Darja. The holistic approach to urban mobility planning with a modified focus group, SWOT, and fuzzy analytical hierarchical process. Sustainability. 2019, vol. 11, iss. 23, str. [1]-29, ilustr. ISSN 2071-1050. https://doi.org/10.3390/su11236599, DOI: 10.3390/su11236599. [COBISS.SI-ID 513044029]. * KRAMAR, Uroš, CVAHTE OJSTERŠEK, Tina, STERNAD, Marjan, TOPOLŠEK, Darja, et al. Designing a strategic mobility plan for small and medium sized cities using a multi-stage methodology : case of Celje. Spatium : urban and spatial planning, architecture, housing, building, geodesia, environment. 2015, iss. 33, str. 47-54. ISSN 1450-569X. [COBISS.SI-ID 512685885]. * MRNJAVAC, Edna, KOVAČIĆ, Nataša, TOPOLŠEK, Darja. The logistic product of bicycle destination. Tourism and hospitality management. 2014, vol. 20, no. 2, str. 171-184. ISSN 1330-7533. [COBISS.SI-ID 512612669] * GAJSKI, Ines, TOPOLŠEK, Darja, CVAHTE OJSTERŠEK, Tina, STERNAD, Marjan. Implementing transport strategies based on sustainable mobility in the County of Varaždin. Tehnički glasnik. 2017, vol. 11, no. 4, str. 221-229, ilustr. ISSN 1846-6168. https://www.unin.hr/wp-content/uploads/tehnicki\_glasnik\_4\_2017.pdf. [COBISS.SI-ID 512888125].   CVAHTE OJSTERŠEK, Tina, TOPOLŠEK, Darja. Scientific literature and EU perspectives on urban consolidation centres. Suvremeni promet. 2015, vol. 35, no. 5/6, str. 357-359, tabele. ISSN 0351-1898. [COBISS.SI-ID 512698173]. |