UČNI NAČRT PREDMETA/COURSE SYLLABUS	
Predmet:	OSKRBOVALNA VERIGA IN NAČRTOVANJE LOGISTIKE
Course title:	SUPPLY CHAIN AND LOGISTICS DESIGN

Študijski program in stopnja Study programme and level	Študijska smer Study field	Letnik Academic year	Semester Semester
LOGISTIKA SISTEMOV 2. stopnja		2.	3.
SYSTEM LOGISTICS 2nd degree		2.	3.

Vrsta predmeta / Course type	IZBIRNI
Univerzitetna koda predmeta / University course code:	MAG

Predavanja Lectures	Seminar Seminar	Vaje Tutorial	Klinične vaje Laboratory work	Druge oblike študija Field work	Samost. delo Individ. work	ECTS
6 e-P 15 a-P		9 e-V 15 a-V			135	6

Nosilec predmeta / Lecturer:	REBEKA KOVACIC LUKMAN IN ANDREJ LISEC

Jeziki / Languages:	Predavanja / Lectures:	SLOVENSKI / SLOVENE
	Vaje / Tutorial:	SLOVENSKI / SLOVENE

Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:	Prerequisits:
Ni pogojev.	None.

Vsebina:	Content (Syllabus outline):
Izvajanje vitke in agilne oskrbovalne verige. Povratna logistika. Model stroškov-za-storitve. Modeliranje za raziskovanje vpliva možnosti na oskrbovalno verigo. Določanje in upravljanje projekta. Struktura upravljanja projektov. Življenjski cikel projekta. Projektna metodologija pri upravljanju projekta. Stroški projekta. Upravljanje kakovosti projekta. Vaje: Analiza oskrbovalne verige z uporabo kartografskega toka. Tehnologije za reševanje problemov. Oskrbovalne verige in ključni kazalniki uspešnosti (KPI). Možnosti Vitke tehnike za identifikacijo možnih procesnih izboljšav. Preizkusi funkcionalnosti programske opreme. Uporaba postopka faznih vrat v projektu. Usposabljanje vodje projektov. Upravljanje stroškov projekta. Izvajanje stalnega programa izboljšav.	Implementation a lean & agile supply chain. Reverse logistics. Cost-to-Serve model. Modelling to explore the impact of options on the supply chain. Defines and manages the scope of a project. Project governance structure. Project management life cycle. Project methodology whilst managing a project. Costs of project. Project quality management. Tutorials: Analyses the supply chain by using value stream mapping. Problem solving techniques. Implements supply chain Key Performance Indicators (KPIs). Lean techniques to identify process improvement opportunities. Software functionality tests. Applies phase gate process to a project. Coaches projects managers. Manages the costs of project. Implements a continuous improvement programme.

Temeljni literatura in viri / Readings:

E-gradivo predmeta./E-learning materials.
Harald Dyckhoff, Richard Lackes, Joachim Reese (2004) Supply Chain Management and Reverse Logistics, Springer Science & Business Media, Business & Economics.
Rommert Dekker, Moritz Fleischmann, Karl Inderfurth, Luk N. van Wassenhove (2004) Reverse Logistics: Quantitative Models for Closed-Loop Supply Chains, Springer Science & Business Media, Business & Economics.

Cilji in kompetence:

Cilji:
Izboljšati razumevanje procesnega vodenja.
Izboljšati razumevanje upravljanja projektov.
Izboljšanje delovanja oskrbovalnih verig.
Izboljšati razumevanje oblikovanja in optimiranja finančnih, fizičnih in informacijskih tokov oskrbovalnih verig za povečanje poslovne uspešnosti.

Kompetence:
Študent ima dober odnos do dela in sodelavcev.
Študent je sposoben z izvajanjem razvojnih projektov izboljšati procese v oskrbovalni verigi.
Študent prevzame odgovornost za dejanja ter delovni tim, v katerem deluje.
Študent razvija, načrtuje in izvaja strategije logistike in oskrbovalne verige, ki obravnavajo zmogljivosti, zunanjo integracijo ter mednarodno trgovino in operacije.

Objectives and competences:

Learning objectives:
Improving understanding of process management.
Improving understanding of project management.
Focusing on improvement of supply chain performance.
Improving understanding on how to design and optimize the financial, physical and information flows of a supply chain to enhance business performance.

Competences:
Student has an impeccable attitude to work and co-workers.
Student is able to improve processes in supply chain by realization of development projects.
The student takes responsibility for the actions and the teams in which he works.
Student is able to develop, plan and implement logistics and supply chain strategies that address capacity, external integration, and international trade and operations.

Predvideni študijski rezultati:

Znanje in razumevanje:
Študent pozna teorijo procesov in vodenja projektov v oskrbovalni verigi.
Študent razume pomen učinkovitega upravljanju oskrbovalnih verig.
Študent pozna vlogo organizacijskih struktur pri upravljanju upravljanju oskrbovalne verige.
Študent razume vlogo logistične funkcije in funkcije oskrbovalnih verig, upoštajoč ključne aktivnosti (podjetja).
Študent razume dejavnike, ki so domena različnih lokacijskih odločitev, upoštevajoč stroške in druga (točkovna) ovrednotenja, pri tem pa se uporabljajo taktične metodologije za načrtovanje zmogljivosti in nadzor oskrbovalne verige.
Študent razume najboljše prakse za upravljanje donosov ob upoštevanju družbene, gospodarske in okoljske odgovornosti.
Študent razume, kako oblikovati in rešiti Problem transporta, lokacijski problem in problem načrtovanja omrežja.
Študent razume premik finančnih tokov koncepta oskrbovalne verige v jezik "upravljanja", pri čemer upošteva stroške, ki temeljijo na dejavnostih, cikel denarnega toka in analizo diskontiranega denarnega toka.
Študent razume oblikovanje toka informacij - ob upoštevanju komunikacije z dobavitelji, notranjimi viri in kupci.

Intended learning outcomes:

Knowledge and Understanding:
Student knows the theory of process and project management in supply chain.
Student understands the importance of performance in supply chain management.
Student knows the role of organizational structures in supply chain management.
Student understands the role of logistics and supply chain function, particularly considering key activities.
Student understands the factors involved in various approaches to facilities location decisions, including cost and scoring models, using also tactical methodologies for capacity planning and supply chain control.
Student understands best practices for managing returns, and achieving social, economic, and environmental responsibility.
Student understands how to formulate and solve transportation, facility location and network design problems.
Student understands the shift of the financial flows of the supply chain concept into the “management” language, considering activity based costing, cash-to-cash cycle and discounted cash flow analysis.
Student understands the design of information flow – considering the communication with suppliers, internal resources and costumers.

Prenesljive/ključne spretnosti in drugi atributi:	Transferable/Key Skills and other attributes:
Študent zna analizirati procese v oskrbovalni verigi in izbrati metode za izboljšanje učinkovitosti, npr. izboljšati logistiko, zmanjšati motnje, zmanjšati tveganje in povečati prožnost trga. Študent je sposoben uporabiti sodobne metode in tehnike (vključno z modeliranjem in simulacijskimi metodami) za izboljšanje delovanja procesov. Študent je sposoben voditi procese in projekte v oskrbovalni verigi. Študent je sposoben odkriti najboljše načine za izboljšanje nabavnih in transportnih funkcij - kako izbrati dobavitelje, vključiti e-nabavo, stroškovne modele transporta in rešiti zaplete transportnih aktivnosti. Študent zna uporabiti ključna orodja in tehnike za izboljšanje poslovnih procesov ter za uresničevanje operativne odličnosti.	Student can analyze processes in supply chain and choose methods to improve its performance, in order to improve logistics, minimize disruptions, reduce risk and increase market resiliency. Student is able to use contemporary methods and techniques (incl. modelling and simulation methods) to improve processes performance. Student is able to manage processes and projects in supply chain. Student is able to discover best ways to improve purchasing, procurement, and transportation functions – how to choose suppliers, integrate e-procurement, cost models of transport, and resolve complications in transport operations. Student can employ essential tools and techniques to improve business processes, and realize operational excellence.

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. 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. 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 %) / Weight (in %)	Assessment:
Opravljene obveznosti e-predavanj in e-vaj so pogoj za pristop k izpitu.	30%	Successful completion of e-lectures and e-tutorials is a prerequisite for entering the exam.
• Opravljen seminar.	40%	• Coursework.
• Pisni izpit.	30%	• Written examination.
• Ustni izpit.		• Oral examination.

Reference nosilca / Lecturer's references:

ŽIGART, Maja, KOVAČIČ LUKMAN, Rebeka, PREMROV, Miroslav, ŽEGARAC LESKOVAR, Vesna. Environmental impact assessment of building envelope components for low-rise buildings. Energy, ISSN 0360-5442. [Print ed.], Available online 22 August 2018, str. [1-20], doi: 10.1016/j.energy.2018.08.149. [COBISS.SI-ID 21646358], [JCR, SNIP, WoS do 9. 11. 2018: št. citatov (TC): 0, čistih citatov (CI): 0, Scopus do 7. 9. 2018: št. citatov (TC): 0, čistih citatov (CI): 0].

KOVAČIČ LUKMAN, Rebeka, CERINŠEK, Monika, VIRTIČ, Peter, HORVAT, Boris. Improving efficient resource usage and reducing carbon dioxide emissions by optimizing fleet management for winter services. Journal of cleaner production, ISSN 1879-1786. [Online ed.], 10. Mar. 2018, vol. 177, str. 1-11. https://www.sciencedirect.com/science/article/pii/S0959652617331013, doi: 10.1016/j.jclepro.2017.12.142. [COBISS.SI-ID 512887613], [JCR, SNIP, WoS do 27. 8. 2018: št. citatov (TC): 1, čistih citatov (CI): 1, Scopus do 29. 5. 2018: št. citatov (TC): 1, čistih citatov (CI): 1].

KOVAČIČ LUKMAN, Rebeka, VIRTIČ, Peter. Developing energy concept maps - an innovative educational tool for energy planning. Journal of sustainable development of energy, water and environment systems, ISSN 1848-9257, 2018, str.

1-13. http://www.sdewes.org/jsdewes/pixd6.0219, doi: 10.13044/j.sdewes.d6.0219. [COBISS.SI-ID 512923709], [SNIP, WoS do 3. 11. 2018: št. citatov (TC): 0, čistih citatov (CI): 0].
VIRTIČ, Peter, KOVAČIČ LUKMAN, Rebeka. The importance of the capacity building for implementing energy efficiency and renewable energy solutions. Thermal science, ISSN 0354-9836, 2018, no. 5, vol. 2, [str. 1-9], ilustr., doi: 10.2298/TSCI180115215V. [COBISS.SI-ID 1024316252], [JCR, SNIP, WoS do 23. 11. 2018: št. citatov (TC): 0, čistih citatov (CI): 0, Scopus do 17. 11. 2018: št. citatov (TC): 0, čistih citatov (CI): 0] PEJIĆ, Vaska, CEDILNIK, Marko, LISEC, Andrej. Impact on the environment of industrial packaging waste transport. Environmental engineering and management journal, ISSN 1843-3707. [Online ed.], 2017, vol. 16, no. 5, str. 1155-1160. http://www.ecozone.ro/reviste.php?revista=21&volum=61&numar=191&RID=27311. [COBISS.SI-ID 512892221], [JCR, SNIP, WoS do 16. 2. 2018: št. citatov (TC): 0, čistih citatov (CI): 0].
OBRECHT, Matevž, KNEZ, Matjaž, SZEGEDI, Zoltan, NICK, Gabor, LISEC, Andrej. Review of Industry 4.0 and forecasting its future within trends in logistics and development of legislation. *Tér gazdaság ember*, ISSN 2064-1176, 2017, vol. 5, no. 4, str. 59-70, ilustr.http://kgk.sze.hu/images/dokumentumok/folyoirat/TGE_V_evf04_ok.pdf.
MURTIČ, Sašo, LISEC, Andrej. Models of inter-organizational logistics management in Slovenia. *Promet*, ISSN 0353-5320. [Print ed.], 2015, vol. 27, no. 1, str. 97-104,
ilustr. http://www.fpz.unizg.hr/traffic/index.php/PROMTT/article/view/1320, doi: 10.7307/ptt.v27i1.1320.
[COBISS.SI-ID 512660541], [JCR, SNIP, WoS do 26. 2. 2017: št. citatov (TC): 1, čistih citatov (CI): 1, Scopus do 28. 1. 2017: št. citatov (TC): 1, čistih citatov (CI): 1].
ANTIC, Slobodan, DJORDJEVIC, Lena, KOSTIĆ, Konstantin, LISEC, Andrej. Dynamic discrete simulation model of an inventory control with or without allowed shortages. *Scientific Bulletin. Series A, Applied mathematics and physics*, ISSN 1223-7027, 2015, vol. 77, iss. 1, str. 163-176,
ilustr. http://scientificbulletin.upb.ro/rev_docs_arhiva/reza5f_351377.pdf. [COBISS.SI-ID 512662589],
[JCR, SNIP, WoS do 2. 4. 2018: št. citatov (TC): 2, čistih citatov (CI): 2, Scopus do 17. 11. 2016: št. citatov (TC): 1, čistih citatov (CI): 1].
PEJIĆ, Vaska, LERHER, Tone, JEREB, Borut, LISEC, Andrej. Lean and green paradigms in logistics : review of published research. *Promet*, ISSN 0353-5320. [Print ed.], 2016, vol. 28, str. 593-603,
ilustr. http://dx.doi.org/10.7307/ptt.v28i6.2078. [COBISS.SI-ID 512817469], [JCR, SNIP, WoS do 9. 4. 2017: št. citatov (TC): 0, čistih citatov (CI): 0, Scopus do 29. 8. 2018: št. citatov (TC): 1, čistih citatov (CI): 1].
LISEC, Andrej. *Reorganization of the postal system : the case of the parcel network in Slovenia*. Harlow ... [et al.]: Pearson, cop. 2016. 101 str., ilustr. ISBN 978-1-784-49153-6. [COBISS.SI-ID 512773949].

Opomba:
Navedene sestavine so obvezna sestavina učnega načrta predmeta kot ga določajo Merila za akreditacijo visokošolskih zavodov in študijskih programov v 7. členu (Ur. l. RS, št. 101/2004).