UČNI NAČRT PREDMETA / COURSE SYLLABUS	
Predmet:	EMBALAŽA IN RAZBREMENILNA LOGISTIKA
Course title:	PACKAGING AND REVERSE LOGISTICS

Študijski program in stopnja Study programme and level	Študijska smer Study field	Letnik Academic year	Semester Semester
LOGISTIKA SISTEMOV 1. stopnja		3.	5.
SYSTEM LOGISTICS 1. degree			

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

Predavanja Lectures	Seminar Seminar	Vaje Tutorial	Klinične vaje Laboratory work	Druge oblike študija Field work	Samost. delo Individ. work	ECTS
e-P 24 a-P 21		e-V 24 a-V 21			90	6

Nosilec predmeta / Lecturer:	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):
Naloge in zahteve embalaže in pakiranja. Funkcije in vrste embalaže. Embalažni materiali. Tehnološki postopki embaliranja. Oblikovanje in načrtovanje embalaže. Testiranje embalaže, standardi, zakonodaja. Razbremenilna logistika. Odpadna embalaža in recikliranje ter vračljiva embalaža.	The tasks and requirements of packaging and packing. Functions and types of packaging. Packaging materials. Technological process of packaging. Design and packaging design. Testing of packaging standards legislation. Reverse logistics. Packaging waste and recycling and returnable packaging.

Temeljni literatura in viri / Readings:

Lisec, A.: Embalaža in razbremenilna logistika, elektronsko gradivo, 2014.
Radonjič, G.: Embalaža in varstvo okolja, Založba Pivec, 2008, COBISS.SI-ID: 60031745.
Paine, F.,A.: Handbook of food packaging, London, Blackie Academic & Proffessional, 1992, ISBN: 0-216-93210-6, COBISS.SI-ID: 13417733.
Holman, J.: Food: processing, packaging & distribution : science in society project, COBISS.SI-ID: 226652.
Coles, R.: Food packaging technology, Oxford, Blackwell, Boca Raton, CRC Press, 2003, ISBN: 1-84127-221-3, COBISS.SI-ID : 2829432.
Denison, E.: Packaging prototypes, Crans-Pres-Céligny, RotoVision, 1999, ISBN: 2-88046-389-0, COBISS.SI-ID: 13682322.
Pringer, O.,G.: Plastic Packaging Materials for Food, 2000.
Stehle, G.: Verpacken von Lebensmitteln, 1997.
Kattan, L.L.: Migration from Food Contact Materials, 1997.

Cilji in kompetence:

Osvojijo znanja s področja embalaže in razbremenilne logistike. Spoznajo tehnološke proces embaliranja se usposobijo uporabljati teoretična znanja v praksi.

Objectives and competences:

Learn different packaging and reverse logistics.
Learn about technological packaging processes
Learn to apply theory in praxis.

Predvideni študijski rezultati:

Znanje in razumevanje:

☐ poznavanje in razumevanje tehnik embaliranja
☐ poznavanje embalažnih materialov
☐ obvladanje načrtovanja in oblikovanja procesov embaliranja
☐ sposobnost obvladljivosti procesov embaliranja
☐ poznavanje osnovnih dejstev o embalaži in razbremenilni logistiki
☐ spoznati probleme embaliranja in embalaže ter veljavno zakonodajo ter usposobiti študente za uporabo teoretičnega znanja v praktičnih primerih.

Intended learning outcomes:

Knowledge and understanding:

☐ learn about different packaging techniques
☐ learn about packing materials
☐ be familiarized with technological processes of packaging
☐ be able to manage packaging processes
☐ learn about recognized international packaging theory and reverse logistics
☐ be familiarized with the problems of packaging and the valid legislation and to enable students to apply theoretical knowledge to case studies.

Metode poučevanja in učenja:

Predavanja: pri predavanjih študent spozna teoretične vsebine predmeta. Del predavanj se izvaja na klasični način v predavalnici, del pa v obliki e-predavanj (epredavanja 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-predavanj (e-vaje se lahko izvajajo na videokonferenčni način ali s pomočjo posebej v ta namen didaktično pripravljenih e-gradiv v

Learning and teaching methods:

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-seminars may be given via video-conferencing or with the help of specially designed e-material in a virtual

virtualnem elektronskem učnem okolju).	electronic learning environment).

Načini ocenjevanja:	Delež (v %) / Weight (in %)	Assessment:
▪ Pisni izpit ▪ Seminarska naloga	▪ 70% ▪ 30%	▪ Written examination ▪ Seminar paper

Reference nosilca / Lecturer's references:

1. LISEC, Andrej, RUSJAN, Borut. Multi-level postal network for improved efficiency : a case study of Slovenian post. Afr. j. bus. manag., 23 Nov. 2011, vol. 5, 29, str. 11676-11685. http://www.academicjournals.org/ajbm/PDF/pdf2011/23Nov/Lisec%20and%20Rusjan.pdf, doi: 10.5897/AJBM11.1781. [COBISS.SI-ID 20435430], [WoS do 3. 2. 2012: št. citatov (TC): 0, čistih citatov (CI): 0, normirano št. čistih citatov (NC): 0]

2. LEVIČAR, Stanislav, LISEC, Andrej. Bioplastic packaging's potential and energy efficiency = Potencial embalaže iz bioplastike in energijska učinkovitost. Journal of energy technology. [Tiskana izd.], Oct. 2011, vol. 4, iss. 4, str. 25-34. [COBISS.SI-ID 15678005]

3. DRAGAN, Dejan, KRAMBERGER, Tomaž, LISEC, Andrej, INTIHAR, Marko, PRAH, Klemen. Using GIS for the optimization of pupils transportation: The case of Laško municipality. Logistics & sustainable transport. [Tiskana izd.], 3. sept. 2011, vol. 2, no. 3, str. 35-51. http://www.jlst.org/uploads/05%20dragan%20dejan%20etc.pdf. [COBISS.SI-ID 512357437]

4. RADINJA, Bojan, LISEC, Andrej. Optimization of delivery of postal items with the use of new postcodes. Logistics & sustainable transport. [Spletna izd.], 06-04-09, vol. 1, iss. 4, 7 str. http://www.jlst.org/uploads/radinja_lisec.pdf. [COBISS.SI-ID 512116797]

5. CAMPUZANO BOLARÍN, Francisco, LISEC, Andrej, ESTEBAN, Francisco Cruz Lario. Inventory cost consequences of variability demand process within a multi-echelon supply chain. Logistics & sustainable transport. [Tiskana izd.], 2008, vol. 1, iss. 3, f. 3-14, ilustr. http://www.jlst.org/uploads/clanek_paco_lisec_koncna.pdf. [COBISS.SI-ID 264152064]

6. LISEC, Andrej, ROSI, Bojan, KAVRAN, Zvonko. Holistic thinking aproach : case study of post network in Slovenia. Promet (Zagreb), 2008, vol. 20, no. 2, str. 79-86. [COBISS.SI-ID 512066621], [JCR, WoS do 17. 1. 2013: št. citatov (TC): 2, čistih citatov (CI): 2, normirano št. čistih citatov (NC): 2, Scopus do 13. 6. 2012: št. citatov (TC): 2, čistih citatov (CI): 2, normirano št. čistih citatov (NC): 2]

7. LISEC, Andrej, RIHTER, Andrej. Logistical operations in postal logistics centres. Logistics & sustainable transport. [Tiskana izd.], 05-10-07, vol. 1, iss. 2, 12 str. http://www.jlst.org/uploads/lisec_rihter.pdf. [COBISS.SI-ID 11730454]

8. LISEC, Andrej, BOGATAJ, Marija. The four-level distribution of parcel delivery with retention. Suvremeni promet, svi./kol. 2007, god. 27, br. 3/4, str. 199-202. [COBISS.SI-ID 17294822]

9. LISEC, Andrej, BOGATAJ, Marija. Combinatorial programming approach to postal systems : the case of parcel network in Slovenia. Suvremeni promet, sij.-tra. 2006, vol. 26, no. 1-2, str. 116-119. [COBISS.SI-ID 16324838]

10. LISEC, Andrej, FERBAR TRATAR, Liljana, BOGATAJ, Marija. Regionalni vidiki optimizacije prenosa paketov na Pošti

Slovenije : primer aplikacije na poslovno enoto Novo mesto. Econ. bus. rev, 2005, vol. 7, pos. št., str. 35-55. [COBISS.SI-ID 5301022]

11. CAMPUZANO BOLARÍN, Francisco, GUILLAMÓN FRUTOS, Antonio, RUIZ ABELLÓN, Ma Del Carmen, LISEC, Andrej. Alternative forecasting techniques that reduce the bullwhip effect in a supply chain : a simulation study. Promet (Zagreb), 2013, vol. 25, no. 2, str. 177-188, doi: 10.7307/ptt.v25i2.1294. [COBISS.SI-ID 512497469], [JCR, WoS do 16. 9. 2013: št. citatov (TC): 0, čistih citatov (CI): 0, normirano št. čistih citatov (NC): 0]

12. CAMPUZANO BOLARÍN, Francisco, GUILLAMÓN FRUTOS, Antonio, LISEC, Andrej. Assessing the impact of prices fluctuation on demand distortion within a multi-echelon supply chain. Promet (Zagreb), 2011, vol. 23, no. 2, str. 131-140. [COBISS.SI-ID 512325437], [JCR, WoS do 10. 1. 2012: št. citatov (TC): 0, čistih citatov (CI): 0, normirano št. čistih citatov (NC): 0]

13. LISEC, Andrej. Novi rejoni ekspresne pošte uz upotrebu geografskih informacionih sistema = New areas of express post with the use of geographical information systems. Savremena pošta, 2006, br. 3, str. 39-45. [COBISS.SI-ID 16882918]

14. KAVAŠ, Andreja, LISEC, Andrej. Renovating the system of returnable packaging in Slovenia. V: IPAVEC, Vesna Mia (ur.), KRAMBERGER, Tomaž (ur.). 9th International Conference on Logistics & Sustainable Transport, ICLST 2012, Celje, Slovenia, 13-15 June 2013. Pre-conference proceedings of the 10th International Conference on Logistics & Sustainable Transport 2013, Celje, Slovenia, 13-15 June 2013. Celje: Faculty of Logistics, 2013, str. 237-248. [COBISS.SI-ID 512511293]

15. DUMNIĆ, Slaviša, LISEC, Andrej. Application of the optimizational model on transport lines of postal deliveries. V: IPAVEC, Vesna Mia (ur.), KRAMBERGER, Tomaž (ur.). 9th International Conference on Logistics & Sustainable Transport, ICLST 2012, Celje, Slovenia, 13-15 June 2013. Pre-conference proceedings of the 10th International Conference on Logistics & Sustainable Transport 2013, Celje, Slovenia, 13-15 June 2013. Celje: Faculty of Logistics, 2013, str. 304-309. [COBISS.SI-ID 512512573]

16. LISEC, Andrej, LEVIČAR, Stanislav. Implementation of reusable plastic containers in Slovenian market. V: KOVALEV, Ivan Vladimirovich (ur.). Logističeskie sistemy v global´noj èkonomike : materialy meždunarodnoj naučno-praktičeskoj konferencii, 27-28 marta 2012, Krasnojarsk : proceedings of international scientific-practical conference, March 27-28, 2012, Krasnoyarsk. Krasnojarsk: Sibirskij gosudarstvennyj aèrokosmičeskij universitet imeni akademika M. F. Rešetneva, cop. 2012, str. 39-45, ilustr. [COBISS.SI-ID 512467773]

17. ŠIMENC, Mitja, LISEC, Andrej. A multidimensional approach to packaging waste reverse logistics evaluation in retailing. V: New horizons in logistics and supply chain management. Centre for Concurrent Enterprise, 2012, str. 501-508. [COBISS.SI-ID 512459581]

18. LEVIČAR, Stanislav, LISEC, Andrej. Indoor navigation and tracking systems integrated with packaging. V: IPAVEC, Vesna Mia (ur.). 9th International Conference on Logistics & Sustainable Transport, ICLST 2012, Celje, Slovenia, 14-16 June 2012. Proceedings of the 9th International Conference on Logistics & Sustainable Transport 2012. Celje: Faculty of Logistics, 2012, str. 380-384, ilustr. [COBISS.SI-ID 512420669]

19. LEVIČAR, Stanislav, LISEC, Andrej. The aspects of biomass packaging. V: LISEC, Andrej (ur.). VI. International Conference on Agricultural Logistics, 8 - 9 November 2012 Novo mesto, Slovenia. Proceedings. Celje: Faculty of Logistics, Centre of University Studies and Research, 2012, 7 str. [COBISS.SI-ID 512461373]