

UČNI NAČRT PREDMETA / COURSE SYLLABUS

Ime predmeta:	VZPOSTAVITEV IN PRESOJA TRAJNOSTNIH OSKRBOVALNIH VERIG
Course title:	ESTABLISHMENT AND ASSESSMENT OF SUSTAINABLE SUPPORTING CHAIN OF SUSTAINABLE SUPPLY CHAIN AUDIT

Študijski program in stopnja Study programme and cycle	Študijska smer Study option	Letnik Year of study	Semester Semester
LOGISTIKA SISTEMOV 1. stopnja		3.	5.
SYSTEM LOGISTICS 1 st degree		3.	5.

**Vrsta predmeta (obvezni ali izbirni) /
Course type (compulsory or elective)**

IZBIRNI
ELECTIVE

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
21 e-P 24 a-P		21 e-V 24 a-V			90	6

**Nosilec predmeta / Course
coordinator:**

MATJAŽ KNEZ

Jeziki /Languages:

Predavanja / Lectures: SLOVENSKI/SLOVENE

Vaje / Tutorial: SLOVENSKI/SLOVENE

**Pogoji za vključitev v delo oz. za opravljanje
študijskih obveznosti:**

Ni pogojev.

**Prerequisites for enrolling in the course or for
performing study obligations:**

None.

Vsebina (kratek pregled učnega načrta):

- Vloga države pri promociji zelene logistike.
- Okoljska zakonodaja, zelena logistika in okoljski standardi.
- Integracija trajnostnega razvoja v strategije organizacij in oskrbovalnih verig.
- Ogljični odtis organizacij, procesov in izdelkov.
- Strategije nižanja ogljičnega odtisa.
- Uporaba različnih alternativnih virov energije in zelenih tehnologij v trajnostnih oskrbovalnih verigah.
- Poslovni modeli trajnostnega razvoja oskrbovalnih verig.
- Vzpostavitev trajnostne oskrbovalne verige.
- Okoljski standardi in presoja.

Content (syllabus outline):

- The role of government in the promotion of green logistics.
- Environmental legislation, green logistics and Environmental Standards.
- Integration of sustainable development strategies in organizations and supply chains.
- Carbon footprint of organizations, processes and products.
- Strategies of carbon footprint reducing.
- Use of a variety of alternative energy sources and green technologies in sustainable supply chain.
- Business models for sustainable development of supply chains.
- Establishing a sustainable supply chain.
- Environmental standards and assessment.

- Poslovna odličnost trajnostnih oskrbovalnih verig.
- Primeri dobre prakse trajnostnega razvoja oskrbovalnih verig v praksi.
- Študije praktičnih primerov ogljičnih presoj.

- Business excellence of sustainable supply chains.
- Good Cases of sustainable development of supply chains from practice.
- Case studies of carbon audits.

Temeljni literatura in viri / Reading materials:

E-gradivo predmeta.

Knez M., (2013) TRAJNOSTNA PRESOJA OSKRBOVALNIH VERIG. E-gradivo – v pripravi. Univerza v Mariboru, Fakulteta za logistiko.

Muneer, Tariq, Kolhe, Mohan, Doyle Aisling. Electric Vehicles: Prospects and Challenges, 1st Edition, 2017. ISBN: 9780128030400.

McKinnon A., Browne M., Whiteing A. (2012) GreenLogistics, Improving the Environmental Sustainability of Logistics.

Standard ISO14000 Environmental management.

Standard ISO9000 Quality management.

Makower J., 2009. Strategies for the Green Economy. McGraw Hill, New York.

MacKinnon D., Shaw J., Docherty I. (2008) Diverging Mobilities? Devolution, Transport and policy Innovation. Elsevier.

Esty D.C., Winston A.S. (2009) Green to Gold. How smart companies use environmental strategy to innovate, create value, and build competitive advantage. John Wiley&Sons, Inc. Hoboken New Jersey.

Cetinkaya B., Cuthbertson R., Ewer G., Klass-Wissing T., Piotrowicz W., Tyssen C. (2011) Sustainable Supply Chain Management. Springer-Verlag Berlin Heidelberg.

Wang.H.F., Gupta S.M. (2011) Green Supply chain management. Product Life Cycle Approach. Mc Graw Hill, New York.

Dodatna literatura: Izbrani članki ter nova izdana literatura s področja predmeta.

Cilji in kompetence:

Cilj tega predmeta je:

- utrditi in nadgraditi teoretično znanje na področju vzpostavitve in presoje trajnostnih oskrbovalnih verig,
- spoznati okoljsko zakonodajo,
- spoznati pomen poznavanja merjenja ogljičnega odtisa znotraj organizacij in oskrbovalnih verigah ter metode merjenja,
- spoznati prednosti vzpostavitve trajnostnega managementa na osnovi standarda ISO14000,
- spoznati orodja in tehnike za doseganje energetske učinkovitosti podjetij,
- spoznati alternativne vire energije in nove, zelene tehnologije prihodnosti ter njihovo integracijo v logistične procese,
- spoznati strategije za doseganje poslovne odličnosti trajnostnih oskrbovalnih verig.

Objectives and competences:

The objective of the course is:

- enhance and upgrade their theoretical knowledge in the field of development of sustainable supply chains,
- to recognize the environmental legislation,
- to recognize the importance of understanding the measurement of the carbon footprint within organizations and supply chains and methods of measurement,
- recognize the potential of establishing a sustainable management based on standard ISO14000,
- to learn the tools and techniques for achieving energy efficiency companies,
- to identify alternative sources of energy and new green technologies of the future and their integration into logistics processes,
- learn about strategies for achieving business excellence in sustainable supply chains.

Predvideni študijski rezultati:

Znanje in razumevanje:

Intended learning outcomes:

Knowledge and understanding:

<ul style="list-style-type: none"> • Poznavanje okoljske problematike. • Poznavanje okoljskih standardov in razumejo pomen okoljske presoje oskrbovalnih verig. • Razumevanje pomena ogljičnega odtisa ter načinov za njegovo zmanjševanje. • Obvladajo specifična znanja s področja vzpostavitve in presoje trajnostnih oskrbovalnih verig. • Pridobijo poglobljena znanja na področju trajnostnih oskrbovalnih verig. <p>Prenesljive/ključne spretnosti in drugi atributi:</p> <ul style="list-style-type: none"> • študenti se usposobijo za uporabo teoretičnega znanja v praktičnih primerih na področju vzpostavitve in presoje trajnostnih oskrbovalnih verig, • se zavedajo pomena vključevanja trajnostnega razvoja v organizacije in oskrbovalne verige, • sposobni kritične presoje različnih situacij, • se usposobijo za generiranje in podajanje celovitih predlogov vzpostavitve in presoje trajnostne oskrbovalne verige.
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<ul style="list-style-type: none"> • Knowledge of environmental issues. • Knowledge of environmental standards and understand the importance of environmental assessment of supply chains. • Understanding the importance of carbon footprint and ways of reducing. • Proficient specific knowledge in the field of transformation and development of supply chains. • Gain in-depth knowledge in the field of sustainable supply chains. <p>Transferable/Key skills and other attributes:</p> <ul style="list-style-type: none"> • the ability to apply theoretical knowledge to professional practice in the field of development of sustainable supply chains, • aware of the importance of integrating sustainable development into the organization and the supply chain, • the ability to critically evaluate the different situations, • the ability to generate and feed the development of holistic proposals for a sustainable supply chain.

Metode poučevanja in učenja:

<p>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).</p> <p>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).</p>

Learning and teaching methods:

<p>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).</p> <p>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).</p>

Načini ocenjevanja:	Delež (v %) / Share (in %)	Assessment methods:
<ul style="list-style-type: none"> • Opravljene obveznosti e-predavanj in e-vaj so pogoj za pristop k izpitu. 		<ul style="list-style-type: none"> • Successful completion of e-lectures and e-tutorials is a prerequisite for entering the exam.
<ul style="list-style-type: none"> • Opravljena seminarska naloga in domače naloge. 	30%	<ul style="list-style-type: none"> • Course work and home work.
<ul style="list-style-type: none"> • Pisni izpit. 	70%	<ul style="list-style-type: none"> • Written examination.

Reference nosilca / Course coordinator's references:

KNEZ, Matjaž, ROSI, Bojan, MULEJ, Matjaž, LIPIČNIK, Martin. Competitiveness by requisitely holistic and innovative logistic management. *Promet*, ISSN 0353-5320, 2010, vol. 22, no. 3, str. 229-237. [COBISS.SI-ID 10305052].

KNEZ, Matjaž, PREDIN, Andrej, ROSI, Bojan. 'Forklift to grid' - how to synergise the electricity and logistics sectors = 'Viličar na omrežje' - kako sinergijsko povezati električno omrežje z logističnim sektorjem. *Journal of energy technology*, May 2012, vol. 5, iss. 2, str. 13-27. http://www.fe.uni-mb.si/images/stories/jet/e-jet/jet_5-2.pdf. [COBISS.SI-ID 1024091228].

KNEZ, Matjaž, PREDIN, Andrej, ROSI, Bojan. Poslovni model OVE/F2G V.1 za učinkovitejši energetski menedžment logističnih podjetij. *Proj. mreža Slov.*, apr. 2012, letn. 15, št. 1, str. 10-17, 43, ilustr. [COBISS.SI-ID 1024084572].

STERNAD, Marjan, KNEZ, Matjaž, ROSI, Bojan. Improving city transport with the objective to reduce CO₂ emissions. *Transport problems*, 2010, vol. 5, iss. 4, str. 95-103. http://transportproblems.polsl.pl/pl/Archiwum/2010/zeszyt4/2010t5z4_12.pdf. [COBISS.SI-ID 512283197]

STERNAD, Marjan, TOPOLŠEK, Darja, KNEZ, Matjaž. The case of Slovenian international comparative advantage in logistics services. *Strategic management*, ISSN 1821-3448, 2012, vol. 17, no. 2, str. 22-30, ilustr., tabela. [COBISS.SI-ID 512434237].

KNEZ, Matjaž. Integracija okolju prijaznih obnovljivih virov energije s sodobnimi tehnologijami v energetski management logističnih procesov : doktorska disertacija. Celje: [M. Knez], 2011. 145, 4 f., ilustr. [COBISS.SI-ID 261029888].

KNEZ, Matjaž, MUNEER, Tariq, JEREB, Borut, CULLINANE, Kevin. The estimation of a driving cycle for Celje and a comparison to other European cities. *Sustainable cities and society*, ISSN 2210-6715. [Spletna izd.], Feb. 2014, vol. 11, str. 56-60, doi: 10.1016/j.scs.2013.11.010. [COBISS.SI-ID 512556349].

KNEZ, Matjaž, JEREB, Borut, OBRECHT, Matevž. Factors influencing the purchasing decisions of low emission cars : a study of Slovenia. *Transportation research. Part D, Transport and environment*, ISSN 1361-9209. [Print ed.], July 2014, vol. 30, str. 53-61. <http://www.sciencedirect.com/science/article/pii/S1361920914000339>, doi: 10.1016/j.trd.2014.05.007. [COBISS.SI-ID 512566077].

MUNEER, Tariq, MILLIGAN, Ross, SMITH, Ian, DOYLE, Aisling, POZUELO, Miguel, KNEZ, Matjaž. Energetic, environmental and economic performance of electric vehicles : experimental evaluation. *Transportation research. Part D, Transport and environment*, ISSN 1361-9209. [Print ed.], 2015, vol. 35, no. [1], str. 40-61. <http://www.sciencedirect.com/science/article/pii/S1361920914001783>, doi: 10.1016/j.trd.2014.11.015. [COBISS.SI-ID 512609853].

KNEZ, Matjaž, JEREB, Borut. Solar power plants - alternative sustainable approach to greener environment: a case of Slovenia. *Sustainable cities and society*, ISSN 2210-6715. [Spletna izd.], Feb. 2013, vol. 6, str. 27-32, doi: 10.1016/j.scs.2012.07.002. [COBISS.SI-ID 512441149].

KNEZ, Matjaž, STERNAD, Marjan. Solar energised transport solution and customer preferences and opinions about alternative fuel vehicles - the case of Slovenia. *Transport problems*, ISSN 1896-0596. [Printed ed.], 2015, vol. 10, iss. 3, str. 17-28, ilustr. http://transportproblems.polsl.pl/pl/Archiwum/2015/zeszyt3/2015t10z3_02.pdf. [COBISS.SI-ID 512711997].

KNEZ, Matjaž, CELIK, Ali Naci, MUNEER, Tariq. A sustainable transport solution for a Slovenia town. *International journal of low carbon technologies*, ISSN 1748-1325. [Online ed.], 2014, [Vol.] 0, str. 1-7, doi: 10.1093/ijlct/ctu007. [COBISS.SI-ID 512557629].

JEREB, Borut, KNEZ, Matjaž, PODBEVŠEK, Nives. High PM10 concentrations in countries of European Union. *Crnogorski časopis za ekologiju*, ISSN 2337-0149, dec. 2014, vol. 1, no. 2, str. 23-29. [COBISS.SI-ID 512614717].

OTOREPEC, Sabina, PODBEVŠEK, Nives, JEREB, Borut, KNEZ, Matjaž. Problems with PM10 concentrations in Slovenia and other countries of European Union. *Logistyka*, 2014, vol. 2014, no. 4, str. 3619-3629. http://czasopismologistyka.pl/index.php?option=com_docman&task=cat_view&gid=305&Itemid=79&limit_start=15. [COBISS.SI-ID 512615229].

OBRECHT, Matevž, KNEZ, Matjaž. Opportunities for transition to sustainable energy strategy in Slovenia. *Strategic management*, ISSN 2334-6191, 2014, vol. 19, no. 3, str. 31-37. http://www.ef.uns.ac.rs/sm/archive/SM2014_3.pdf. [COBISS.SI-ID 512586557].

GAGO, E. J., MUNEER, Tariq, KNEZ, Matjaž, KÖSTER, Helmut. Natural light controls and guides in buildings : energy saving for electrical lighting, reduction of cooling load. *Renewable & sustainable energy reviews : an international journal*, ISSN 1364-0321. [Print ed.], 2015, vol. 41, str. 1-13. <http://www.sciencedirect.com/science/article/pii/S1364032114006777>, doi: 10.1016/j.rser.2014.08.002. [COBISS.SI-ID 512585021].

MUNEER, Tariq, MILLIGAN, Ross, SMITH, Ian, DOYLE, Aisling, POZUELO, Miguel, KNEZ, Matjaž. Energetic, environmental and economic performance of electric vehicles : experimental evaluation. *Transportation research. Part D, Transport and environment*, ISSN 1361-9209. [Print ed.], 2015, vol. 35, no. [1], str. 40-61. <http://www.sciencedirect.com/science/article/pii/S1361920914001783>, doi: 10.1016/j.trd.2014.11.015. [COBISS.SI-ID 512609853].

OBRECHT, Matevž, KNEZ, Matjaž. Carbon and resource savings of different cargo container designs. *Journal of cleaner production*, ISSN 1879-1786. [Online ed.], 1 Jul. 2017, vol. 155, 151-156 str. <https://doi.org/10.1016/j.jclepro.2016.11.076>, doi: 10.1016/j.jclepro.2016.11.076. [COBISS.SI-ID 512811837].