

**UČNI NAČRT PREDMETA / COURSE SYLLABUS**

**Ime predmeta:** NAČRTOVANJE TRANSPORTNIH OPERACIJ  
**Course title:** TRANSPORTATION OPERATIONAL PLANNING

Študijski program in stopnja Study programme and cycle	Študijska smer Study option	Letnik Year of study	Semester Semester
GOSPODARSKA IN TEHNIŠKA LOGISTIKA 1. stopnja		2.	3.
PROFESSIONAL HIGHER EDUCATION STUDY PROGRAMME ECONOMIC AND TECHNICAL LOGISTICS 1 <sup>st</sup> degree		2.	3.

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

OBVEZNI  
COMPULSORY

**Univerzitetna koda predmeta / University course code:**

VS

Predavanja Lectures	Seminar Seminar	Vaje Tutorial	Klinične vaje Clinical training	Druge oblike študija Other forms of study	Samost. delo Individual work	ECTS
24 e-P 21 a-P		24 e-V 21 a-V			120	7

**Nosilec predmeta / Course  
coordinator:**

DARJA TOPOLŠEK

**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):**

- Transportna mreža.
- Načrtovanje transportnih operacij.
- Načrtovanje potrebnih virov.
- Izbira modalitete.
- Načrtovanje in vzdrževanje voznega parka.
- IT podpora izbiri modalitet, časov, ponudnikov...
- Informacijski tok v transportu.
- Časovni vidik transporta in transportnih operacij, načrt dela in izrabe virov.
- Izbira transportnih poti in urniki.
- Sledenje in izsledovanje tovora.
- Tehnologije in orodja za načrtovanje transportnih operacij.

**Content (syllabus outline):**

- Transport network.
- Planning of transportation operations.
- Planning the resources needed.
- Choice of modality.
- Fleet design and maintenance of rolling stock.
- IT support for the choice of modalities, times, providers...
- Information flow in transport.
- Timing of transport and transportation operations, work planning and resource utilization.
- Choice of transport routes and schedules.
- Cargo tracking and tracing.

- Reorganizacija (distribucijskega) omrežja.
- Stroškovni vidik transporta.
- Konsolidacija tovora v navezavi s transportom.
- Problemi dostave v zadnjem kilometru in v urbanih okoljih.

- Technology and tools for planning transportation operations.
- Reorganization of the (distribution) network.
- Cost aspect of transportation.
- Cargo consolidation in connection with transport.
- Last kilometer and urban delivery problems.

#### Temeljni literatura in viri / Reading materials:

- E-gradivo predmeta.
- Meyer, M. D. (2016). Transportation Planning Handbook: Institute of Transportation Engineers. John Wiley & Sons.
- Vinay., J. (2014). Transportation Planning: Principles, Practices and Policies. PH1.
- TOPOLŠEK, Darja, CVAHTE OJSTERŠEK, Tina. Mestna logistika in mobilistika : e-gradivo. Celje: Fakulteta za logistiko, 2016. 293 str., ilustr. <http://estudij.um.si/>. [COBISS.SI-ID 512790845].

#### Cilji in kompetence:

- Študenti:
- poznajo koncepte transportnih mrež,
  - razumejo in načrtujejo vse transportne operacije,
  - razumejo pomen izbire virov in načinov njihove uporabe za uspešnost transporta,
  - poznajo sodobne rešitve, ki se uporabljajo v načrtovanju transporta,
  - uporabijo in izdelajo urnike dela in dostav,
  - uporabijo in izdelajo načrte poti,
  - umestijo transport v distribucijska omrežja,
  - poznajo specifične, ki jih zahtevajo mestna okolja.

#### Objectives and competences:

- Students will:
- understand the concepts of transport networks,
  - know how to plan all transport operations,
  - understand the importance of selecting resources and how to use them for transport success,
  - know the modern solutions used in transport planning,
  - know how to make work and delivery schedules,
  - know how to make itineraries,
  - know how to place transport in distribution networks,
  - know the specifics required by urban environments.

#### Predvideni študijski rezultati:

- Znanje in razumevanje:
- načrtovanja transportnih operacij v transportnem omrežju,
  - podpornih procesov, kot so izbira modalitete in upravljanje virov,
  - sodobnih tehnologij in IT podpore na področju načrtovanja transporta,
  - specifičnih problemov dostave.
- Prenesljive/ključne spretnosti in drugi atributi:
- študenti se usposobijo za uporabo teoretičnega znanja v praktičnih primerih.

#### Intended learning outcomes:

- Knowledge and understanding:
- of planning of transport operations in the transport network,
  - of support processes such as modality selection and resource management,
  - of modern technologies and IT support in the field of transport planning,
  - of specific delivery problems.
- Transferable/Key Skills and other attributes:
- the ability to apply theoretical knowledge to professional practice.

#### 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

#### Learning and teaching methods:

Lectures: students understand the theoretical frameworks of the course. Part of the lecture course is in a

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).

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).

<b>Načini ocenjevanja:</b>	Delež (v %) / Share (in %)	<b>Assessment methods:</b>
<ul style="list-style-type: none"> <li>• Opravljene obveznosti e-predavanj in e-vaj so pogoj za pristop k izpitu.</li> <li>• Pisni izpit.</li> <li>• Ocena iz vaj.</li> </ul>	70% 30%	<ul style="list-style-type: none"> <li>• Successful completion of e-lectures and e-tutorials is a prerequisite for entering the exam</li> <li>• Written examination.</li> <li>• Grade from tutorials.</li> </ul>

**Reference nosilca / Course coordinator's references:**

- TOPOLŠEK, Darja, ČIŽUNIENE, Kristina, CVAHTE OJSTERŠEK, Tina. Defining transport logistics : a literature review and practitioner opinion based approach. Transport, ISSN 1648-4142. [Print ed.], 2018, vol. 33, iss. 5.
- STERNAD, Marjan, CVAHTE OJSTERŠEK, Tina, TOPOLŠEK, Darja, JUSTINEK, Gorazd. The influence of logistics barriers on lead times and service levels in Slovenia. International journal of logistics systems and management, ISSN 1742-7975. [Online ed.], 2016, vol. 23, no 4.
- CVAHTE OJSTERŠEK, Tina, TOPOLŠEK, Darja, STERNAD, Marjan. The impact of clustering on transport companies. Production Engineering Archives, ISSN 2353-5156, 2015, vol. 7, no. 2.
- TOPOLŠEK, Darja, HERBAJ, Elvis Alojz, STERNAD, Marjan. The accuracy analysis of measurement tools for traffic accident investigation. Journal of transportation technologies, ISSN 2160-0473, Jan. 2014, vol. 4, no. 1.
- TOPOLŠEK, Darja, HRIBAR, Suzana, STERNAD, Marjan. Road traffic safety in conjunction with in-vehicle ITS. Transport problems : international scientific journal, ISSN 1896-0596. [Printed ed.], 2014, vol. 9, iss. 2.