# Transport Informatics (PhD)

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| 1. Subject name | Transport Informatics (PhD) | | | | |
| 2. Subject name in Hungarian | Közlekedési informatika (PhD) | | | | |
| 3. Code | BMEKOKUD002 | 4. Evaluation type | exam grade | 5. Credits | 3 |
| 6. Weekly contact hours | 2 (0) Lecture | 2 (0) Practice | 0 (0) Lab | | |
| 7. Curriculum | PhD Programme | 8. Role | Specific course | | |
| 9. Working hours for fulfilling the requirements of the subject | | | | | 148 |
| Contact hours | 56 | Preparation for seminars | 14 | Homework | 34 |
| Reading written materials | 20 | Midterm preparation | 14 | Exam preparation | 10 |
| 10. Department | Department of Transport Technology and Economics | | | | |
| 11. Responsible lecturer | Dr. Csiszár Csaba | | | | |
| 12. Lecturers | Dr. Csiszár Csaba, Csonka Bálint, Földes Dávid | | | | |
| 13. Prerequisites | | | | | |

## 14. Description of lectures

Features of road electromobility system. Information system and services of electromobility, smart grid. Transportation system based on autonomous vehicles, mobility service types, impacts. Planning and operation of mobility services based on autonomous vehicles. Structure of transportation system, basic concepts in informatics. Structural model of transportation information systems. Characteristics and categorization of transportation organizations. Operational models of transportation organizations. Analysis and modelling methods of transportation information systems.

## 15. Description of practices

Basic terms and main application fields of artificial intelligence, calculation examples. Rudiments of system planning. Case studies. The students elaborate a customized complex assignment for modelling and planning information system aiding transportation operation.

## 16. Description of labortory practices

## 17. Learning outcomes

A. Knowledge
- The students know structure and operation of complex transportation information systems.

B. Skills
- They are able to analyse and design transportation information systems and operational processes.

C. Attitudes
- The students strive for precise and errorless task accomplishment.

D. Autonomy and Responsibility
- They apply the knowledge with responsibility.
- They are able to work independently or in a team according to the situation.

## 18. Requirements, way to determine a grade (obtain a signature)

The students write 4 midterms. 2 of them include theoretical questions; 2 of them include practical questions. The mid-semester signature is obtained if all the four midterms are passed (half of the max-imal scores) and the student assignment about data modelling is submitted and accepted (at least half of the maximal scores). The semester is finished by oral exam.

## 19. Opportunity for repeat/retake and delayed completion

The midterms can be retaken according to TVSZ (study code). The student assignment can be submitted after deadline (if extra fee is paid).

## 20. Learning materials

ppt slides, Csaba Csiszár – Bálint Csonka – Dávid Földes: Innovative Passenger Transportation Systems (book) (2019), Dr. Csiszár Csaba – Caesar Bálint – Csonka Bálint – Földes Dávid: Transportation Information Systems I. Study-aid for practices in computer laboratory (2016)

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| Effective date | 27 November 2019 | This Subject Datasheet is valid for | Inactive courses |