# Budapest University of Technology and Economics
## Faculty of Transportation Engineering and Vehicle Enginee

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| **1. Subject name** | **Vehicle superstructure design** | | | | |
| **2. Subject name in Hungarian** | Járműfelépítmény tervezés | | | | |
| **3. Code** | **BMEKOJSM667** | **4. Evaluation type** | **mid-term grade** | **5. Credits** | **5** |
| **6. Weekly contact hours** | **2 (10) Lecture** | **0 (0) Practice** | **2 (11) Lab** | | |
| **7. Curriculum** | **Vehicle Engineering MSc (J)** | **8. Role** | **Specialization (sp) at Vehicle Engineering MSc (J)** | | |
| **9. Working hours for fulfilling the requirements of the subject** | | | | | **150** |
| **Contact hours** | 56 | **Preparation for seminars** | 18 | **Homework** | 50 |
| **Reading written materials** | 12 | **Midterm preparation** | 4 | **Exam preparation** | 10 |
| **10. Department** | **Department of Railway Vehicles and Vehicle System Analysis** | | | | |
| **11. Responsible lecturer** | Dr. Lovas László | | | | |
| **12. Lecturers** | Dr. Galambosi Frigyes, Dr. Susánszki Zoltán | | | | |
| **13. Prerequisites** | **strong: KOJSM664 - Superstructure preliminary design** | | | | |

**14. Description of lectures**

Construction layouts, regarding manufacturing and tooling. Optimisation of superstructures (manufacturing, weight, stiffness).

**15. Description of practices**

**16. Description of labortory practices**

Complete superstructure design using CAD tools.

**17. Learning outcomes**

A. Knowledge
- the student knows the usual processes in superstructure manufacturing
- knows the special requirements for manufacturing tubes, sheet metals, elastic covers
- knows the superstructure optimisation possibilities concerning shape, size and weight
- knows the principles fo the continous improvement in vehicle industry

B. Skills
- the student is able to prepare the core of a superstructure design of a given type
- is able to prepare a design for easy manufacturing
- is able to optimize the superstructure layout upon given requirements
- is able to perform a superstructure design task alone
- is able to realize the sufficiently detailed numerical model of a superstructure

C. Attitudes
- the student makes an effort to gather all the available informations in a given domain
- cooperates with his fellow students and the teacher
- is open minded towards new and innovative ideas and researches
- uses informatical and computational devices for his work

D. Autonomy and Responsibility
- the student is conscient about his responsibility towards the society and his company
- asks for the colleagues' expertise and judgement when working
- considers challenges with responsibility

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

1 semestrial project work, 1 non-compulsory test. Details for computing the final mark can be find in the subject requirements.

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

Second test possibility for those not present on the test, possibility of delayed deadline for homework

## 20. Learning materials

Lecture notes

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| **Effective date** | 10 October 2019 | **This Subject Datasheet is valid for** | Inactive courses |