Course description (topics)

<table>
<tr><td colspan="5">Title of the course:
Strategic Smart mobility – Micro Mobility</td></tr>
<tr><td colspan="5">Tutors of the course , contact details: András Húnfalvi, Dániel Ruppert
hunfalvi.andras@mome.hu; ruppert.daniel@mome.hu</td></tr>
<tr><td>Code:</td><td>Related curriculum (programme/level): MA1</td><td>Recommended semester within the curriculum:</td><td>Credit: 5</td><td>Number of class hours:
Student working hours:</td></tr>
<tr><td>Related codes</td><td>Type: (seminar/lecture/class work/consultation, etc.)</td><td>Can it be an elective course? no</td><td colspan="2">In case of elective what are the specific prerequisites:</td></tr>
<tr><td colspan="5">Course connections (prerequisites, parallells):
Paralell with Strategic Design – project „B”</td></tr>
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<tr><td colspan="5">Learning outcomes (professional and general competences to be developed):

Knowledge:
1. Have a comprehensive knowledge to plan the future of urban vehicles and micromobility.
2. High level of knowledge of the technical, environmental and social aspects of the mobility system
3. Intermediate level knowledge of the main presentation tools, styles and channels used in the field.
4. Understands the philosophy of design, (audio)visual arts and architecture.
5. Understands the role and importance of analytical and critical thinking within the field.
6. Understands in detail the basic content and general principles of other fields related to design (e.g. economics, culture, futurology, ecology, technology).
7. Familiar with a range of different research methods to identify the needs of stakeholders.

Ability:
1. Adapt and develop design skills, techniques and technologies in response to current and future social, cultural and economic challenges and new types of problems.
2. Identify and analyse problems that design can solve.
3. Develops and evaluates design concepts.
4. Links design concepts to similar tools in other (related) disciplines.
5. is able to make creative use of the technical, material and information resources on which his/her design work is based.
6. analyses and develops his/her own design and design processes.
7. Communicates his/her own ideas and creative processes to team members, designers and the general public.
8. Is able to collaborate with his/her own professional community.
9. Ability to work effectively in a team
10. Able to absorb and integrate diverse knowledge into his/her thinking.
11. Identifies the needs of stakeholders in the design process, involving them in the design process where appropriate.</td></tr>
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Attitude:
1. Focuses on the creative aspects of design.
2. Produce designs of high aesthetic quality
3. Has an open and inclusive approach to design.
4. Aspires to build and maintain professional relationships.
5. Consciously manages interactions (presentation, teamwork, brainstorming, workshops, etc.) that arise during the design process.

Autonomy and responsibility:
1. Creates an individual design concept and implements it professionally in a team.
2. Works autonomously and responsibly in multidisciplinary projects and activities.

Topics and themes to be covered in the course:

Micromobility is a highly sophisticated area of industrial design. Designers have to consider both the transport as a multi-actor system and the mobility devices that move the system.

During the course, students will work in teams of 2 on a complete concept design process. During the course, they design around the theme of personal transport in the near future, taking into account environmental, social, cultural and economic conditions. At the end of the semester, a concept vehicle will be presented through visual designs, model sketches and VR models.

The aim of the course is to enable students to design well-developed concepts of high design quality, based on the conclusions of an in-depth research. The project will focus on systemic design, the use of digital technologies (VR) and the high aesthetic quality of the final result.

During the evaluation, students will present their designs using VR technology, in a life-size, immersive presentation of their project.

Tasks and activities:
– Mobility systems analysis
– Trend analysis
– Problem definition, formulation of future user needs and usage patterns, human-centred design
– Creative conceptualisation
– Using digital design methods: creating and presenting 3D models using VR technology, creating simple animations
– Creating physical ergonomic model sketches
– Ergonomic concept design
– Presentation

Assessment:
(in case of more teachers are involved and they evaluate seperately, separate assessments per teacher needed)

- Attendance, maximum number of absences: 3
- Presentation of the design concept and the design process on poster
- Digital presentation
- Ergonomics proof-of concept models
- 3D model, animation, VR presentation

Assessment criteria

– Activity on lessons
– Is the topic of the task well-founded, what is the social and/or technological justification, in what kind of environment do you imagine the vehicle?
– The design method used for the topic
– How familiar is the designer with the technical, social, ergonomic and anthropological aspects of the subject?
– To what extent is the solution to the problem in accordance with the brief?
– Does the depth and detail of the task - research, sketches, 3d and physical models - reach the expected level?
– Is the overall design stage – presentation of the concept, its visual and verbal communication, etc. – adequate?

Evaluation's formula:
Presentation at the end-of-semester evaluation

How is the mark calculated (how is the result of each assessed requirement reflected in the final mark? {e.g. proportions, points, weights}):

How the grade is calculated

●	Activity, attendance	10 %	91-100%:	excellent (5)
●	Concept quality	20 %	81-90%:	good (4)
●	Visual materials (sketch, rendering, anim.:)	30 %	71-80%:	average (3)
●	Quality of presentations	20 %	61-70%:	adequate (2)
	Examination presentation	20 %	0-60%:	unsatisfactory (1)

Required Literature:

– Stuart Macey & Geoff Wardle: H-Point, The Fundamentals of Car Design & Packaging

Recommended Literature:

OTHER INFORMATION:

What equipment does the student need to obtain to complete the lesson?

- Digital drawing board required (available in the Mobility Lab)

Recognition of knowledge acquired elsewhere/previously/validation principle:

- No exemption from attending and completing the course will be granted,
- Exemptions from the acquisition of certain competences and the completion of certain tasks may be granted,
- some tasks may be replaced by other activities,
- full exemption may be granted.

Out-of-class consultation times and location: