TECHNIK
HOCHSCHULE MAINZ
UNIVERSITY OF
APPLIED SCIENCES

Course title: Traffic Infrastructures

Identification number	**ECTS credits**	**Duration of the module**	**Intended study semester**	**Frequency of the course**
	4	One Semester	2. Semester	Each Semester

Workload (total) (h)	**Contact time (h)**	**Self-study (h)**
120	60	60

Language	**Planned group size**	**Compulsory or elective**
English	20 Students	Compulsory Module

Module coordinator	**Course(s) (with focus/module group if applicable)**
Prof. Dr. Rainer Hess	Traffic Infrastructures

1. Qualification goals/competences/learning outcomes

After completing the module, students will be able to:

- Field of Road Design: hold basic knowledge about planning processes and road design. They are able to design highways and motorways in horizontal, vertical and 3D alignment as well as cross sections in detail and to perform the related calculations (axis and gradients). They should be able to design interchanges and intersections.
- Field of Traffic Planning: to analyse traffic planning tasks and develop traffic concepts. They are furthermore able to prepare and to perform each step to fulfil the necessary verifications in the dimensioning process for road traffic infrastructures.

2. Contents

- During the lecture the following topics are presented:
- Field of Road Design: planning principles and processes, network design, basics in driving dynamics, horizontal and vertical alignment, design of cross sections, 3D alignment, interchange and intersection design
- Field of Traffic Planning: planning methodology, traffic census, traffic count, traffic prognosis, principles of traffic flow, capacity and level of service of roads, design according to the German HBS

3. Teaching methods

Lecture with integrated class exercise

4. Participation requirements

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5. Regulations on attendance

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6. Examination type and scope

Written Final Exam (120 Minutes)

	Course test as a prerequisite for participation in the exam Semester Work
7.	**Requirements for the awarding of credit points (ECTS)** Passed exam Traffic Infrastructures
8.	**Applicability of the module (in other degree programmes)** Bachelor's degree programme International Civil Engineering
9.	**Importance of the grade for the final grade** 4/194
10.	**Literature references** • Richtlinien für die Anlage von Landstraßen (RAL), FGSV Nr. 201, FGSV-Verlag, Köln • Handbuch für die Bemessung von Straßenverkehrsanlagen (HBS), FGSV Nr. 299, FGSV-Verlag, Köln
11.	**Other information** /
12.	**Last edited** 13.12.24