TECHNIK
HOCHSCHULE MAINZ
UNIVERSITY OF
APPLIED SCIENCES

Course title: Urban Planning

Identification number	**ECTS credits**	**Duration of the module**	**Intended study semester**	**Frequency of the course**
	5	One Semester	3. Semester	Each Semester

Workload (total) (h)	**Contact time (h)**	**Self-study (h)**
150	60	90

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	Urban Planning

1. Qualification goals/competences/learning outcomes

After completing the module, students will be able to:

- develop design and layout concepts for urban traffic infrastructures (road space, balance of functions, and connection of traffic modes).
- design pavement structures and choose suitable materials for each layer.
- develop pavement monitoring concepts and calculate a pavement maintenance program.
- have basic knowledge of the system components of railroads and their functions.
- familiar with the structural features of the rail body and the track and be able to assess track designs and constructions in terms of their functional efficiency and serviceability.

2. Contents

- Field of Urban Planning: The layout of urban traffic infrastructures, basics of geometric road design, design of roads, junctions, and connections in the urban context, design of public squares considering different functions, specific surface structures and materials, integration of sustainable traffic modes
- Field of Road Pavements: Principles of pavement structures, road materials and layers, german quality assurance concept, design of road pavements according to the German RStO, pavement monitoring concepts
- Field of Railroad Systems: Development, legal bases, and organization of railroads, railway crossings (road/rail), fundamentals of the wheel/rail system, rails and track loading, superstructure design and maintenance, track curves, alignment, and switches, cross-section design, earthworks and engineering structures for railroads
- Other at a glance (power supply, signals, control and safety technology, vehicle dynamics, railroad operation, station facilities)

3. Teaching methods

Lecture with integrated class exercise

4. Participation requirements

	The module Geotechnics 1 should have already been taken.
5.	**Regulations on attendance** /
6.	**Examination type and scope** Written Final Exam (120 Minutes) **Course test as a prerequisite for participation in the exam** /
7.	**Requirements for the awarding of credit points (ECTS)** Passed exam Urban Planning
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** 5/194
10.	**Literature references** • Richtlinien für die Anlage von Stadtstraßen (RASt), FGSV Nr. 200, FGSV-Verlag, Köln • Richtlinien für die Standardisierung des Oberbaus von Verkehrsflächen (RStO), FGSV Nr. 499, FGSV-Verlag, Köln
11.	**Other information** /
12.	**Last edited** 13.12.24