1. Basics of microscopic traffic modelling: using PTV Vissim in traffic simulations

This course provides an introductory overview of microscopic traffic simulation, with a focus on practical applications using PTV Vissim software. Students will gain a foundational understanding of traffic modelling at the microscopic level, including how to construct a road network, configure vehicle flows, design fixed-time traffic signal plans, modify driver behavior parameters, and collect simulation data.

2. Content of the course

No.	Topic	Detailed description	Number of hours
CHAPTER 1 - Fundamentals of Microscopic Traffic Modelling			
1	Fundamentals of Microscopic Traffic Simulation	**Lecture:** Introduction to the principles of microscopic traffic modelling, overview of car-following models, and a basic orientation to the PTV Vissim interface and capabilities.	1
CHAPTER 2 -Developic traffic network			
2	Creating the Basic Road Network	**Practical:** Building the fundamental structure of a road network in PTV Vissim.	2
3	Traffic lights and fixed traffic programs	**Practical:** Designing fixed-time traffic signal programs and implementing signal controllers within the network.	2
CHAPTER 3 – Traffic flow			
4	Vehicle Types, Inputs, and Routing	**Practical:** Defining vehicle types, configuring input volumes, and creating static vehicle routing through the network.	2
5	Driver Behavior Parameters	**Practical:** Adjusting key driver behaviour parameters to influence simulation outcomes.	1
CHAPTER 4 – Collecting data from the simulation			

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6	Data Collection	**Practical:** Setting up measurement objects, defining data collection methods, extracting data from the simulation	1
7	Video Recording of Simulation	**Practical:** Using the built-in video recording tools in PTV Vissim to generate visual outputs of the simulation.	1
Sum:			**10**