Head:	Prof. Dr. Eva Heinen
Topic:	**Influence of Weather on E-Scooter Usage**
Assistant:	Jonas Hess
Registration:	www.ivt.ethz.ch/en/studies/downloads/assignments.html#registration

This study aims to explore the influence of weather conditions on the usage of e-scooters. By connecting e-scooter trip data (GPS-tracks) with meteorological data from local weather stations, the study seeks to investigate how factors such as temperature, humidity, solar radiation, precipitation, and wind influence e-scooter travel patterns across the city. Depending on the type of work (project study or BSc or MSc thesis), the study should also address the potential impact of urban microclimates, including the role of shading, to better understand spatial variations in e-scooter usage.

Tasks:

- Literature review on weather and travel behaviour, focus on e-scooter.
  Result: Definition of metrics to be used in the study.
- Development of a script to calculate weather and additional metrics.
  Result: Working script to calculate network metrics.
- Estimation of models to describe e-scooter usage.
  Result: Estimated models.
- Discussion of policy-relevant results.
  Result: Policy recommendations for the adaptation of e-scooter systems to weather conditions, including urban planning suggestions to promote shaded routes and enhance microclimatic comfort for riders.

Links:	
Additional remarks:	Prior experience with the programming languages R or Python is helpful.
Minimum credits:	8 ECTS
Recommended lectures:	• GIS