M o d u l e s   "MSc. E n v i r o n m e n t a l   E n g i n e e r i n g" - F P S O 2 0 1 6 1 - December 17, 2 0 2 0

Required modules Study line 10: Traffic Engineering and Control

E l e c t i v e   m o d u l e s

Semester 1 — WS

Required modules (Study line 10)	Elective modules
Traffic Management — Dumler/Dandl — 4 SWS/ 6 Cr — BV560024	**Road and Rail Design** — 6 SWS 6 Cr BV340019
C1: Traffic Flow Models (LI) — Bogenberger, Tilg	C1: Road Design — Lechner
C2: Traffic Control Basics (LI) — Bogenberger, Amini	C2: Rail Design — Lechner Stahl Freudenstein

Elective modules row 1:
- **Road and Rail Design** — 6 SWS 6 Cr BV340019 — C1: Road Design (Lechner), C2: Rail Design (Lechner, Stahl, Freudenstein)
- **ICT-Enabled Business Models for Urban Mobility** — 2 SWS 3 Cr BGU68005 — C: ICT-Enabled Business Models for Urban Mobility (Moeckel)
- **Urban Ropeways** — Glöckl 2 SWS/ 3 Cr BGU56056 — C: Urban Ropeways (Bogenberger)
- **Special Topics on Model Calibration** — 2 SWS 3 Cr BGU70007 — C: ICT-Enabled Business Models for Urban Mobility (Antoniou)

Semester 2 — SS

Intelligent Transport Systems — Grigoropoulos — 4 SWS/ 6 Cr — BV560023
- C1: Traffic Control - Extension — Bogenberger, Grigoropoulos

Required modules:12 Credits/Stud...

Elective modules:
- **Applied Traffic Engineering and Transport Planning** — Dumler/Glöckl 3 SWS/ 3 Cr BGU56050T2 — C1: Computer Aided Design (Tsakarestos); C2: Traffic Engineering and Transport Planning in Practice (Dumler/Glöckl)
- **Autonomous Vehicles and Transportation Systems** — 2 SWS/ 3 Cr BGU56055 — LV: Autonomous Vehicles and Transportation Systems (Bogenberger, Gastreferenten)
- **Traffic Data-Collection and Analysis** — 3 SWS/ 3 Cr BGU56048 — C: Traffic Data-Collection and Analysis (Spangler)
- **Traffic Flow Simulation** — Dandl 6 SWS/ 6 Cr BGU56059T2 — C1: Traffic Flow Simulation-Basics; C2 "Traffic Flow Simulation-Extension" is offered in the 3rd semester (Dandl, Amini)
- **Transport Planning and Traffic Engineering Concepts for Electric Mobility** — C: Transport Planning and Traffic Engineering Concepts for Electric Mobility is expected to be offered from SS22 (Bogenberger, Wulfhorst)
- **Project Appraisal and Planning Processes in Transporation** — N.N. 2 SWS/ 3 Cr BGU56041 — C1: Transport Economy and System Assessment (Lecture) (Fehn/Tilg); C2: Transport Economy and System Assessment (Exercise) (Fehn/Tilg); C3: Transporation Policies and Project Design (Wulfhorst)
- **Statistical Learning and Data Analytics for Transportation Systems** — 5 SWS/ 6 Cr BV520009 — C: Statistical Learning and Data Analytics for Transportation Systems (Antoniou)
- **Road Safety** — 4 SWS/ 6 Cr BGU70006 — C1: Road Safety Fundamentals (Moeckel, Garcia); C2: Advanced Road Safety Concepts (Antoniou)
- **Urban Transportation Systems: Operations Research and Emerging Mobility Technologies** — 6 SWS/ 6 Cr BGU68006 — C1: Urban Operations Research for Transportation Systems (Antoniou); C2: Emerging Mobility Technologies (Antoniou)
- 4 SWS/ 6 Cr BGU70008

Elective modules in study line 10: ≥ 12 Cr

Semester 3 — WS

Intelligent Transport Systems — Grigoropoulos — 4 SWS/ 6 Cr — BV560023
- C2: ITS System Architectures and Applications — Antoniou

Elective:
- **Traffic Flow Simulation** — Dandl 6 SWS/ 6 Cr BGU56059T2 — C2: Traffic Flow Simulation-Extension (Dandl, Amini)

Semester 4 — SS

Master's Thesis — 6 Months/ 30 Cr BV00MTUI
- Master's Thesis — to prepare in one of the two study lines