Modules "MSc. Transportation Systems"-FPSO 20211   August, 2022

valid from: WS2122

Required modules

Semester															Semester
1 WS	**Travel Behavior and Environmental Impacts**	Tsakarestos 5 SWS/ 6 Cr BGU56058	**Applied Statistics for Transportation Systems**	Antoniou 4 SWS/ 6 Cr BGU70009	**Infrastructure Planning**	Lechner 5 SWS/ 6 Cr BV340009	**Land-Use and Transport - Strategies and Models**	Wulfhorst 4 SWS/ 6 Cr BV520010	**Traffic Management**	Kessler 4 SWS/ 6 Cr BV560024	**Cross-Cutting Fundamentals and Methods**	Antoniou 2 SWS/ 3 Cr BGU56038			**1 WS**
	C1: Transport and the Environment	Tsakarestos	C: Applied Statistics for Transportation Systems in Transport	Antoniou	C1: Kinematics and Dynamics of Driving	Lechner	C1: Transport Planning Models	Wulfhorst	C1: Traffic Flow Theory (LI)	Bogenberger, Loder, Malcolm	C1: Scientific Paper Writing / C2: Intercultural Aspects of Transportation Management	de Vries / Antoniou			
	C2: Travel Behavior	Moeckel					C2: Interactions of Land-Use and Transport	Wulfhorst, Büttner	C2: Traffic Control Basics (LI)	Bogenberger, Sautter, Kessler					
2 SS	**Project Appraisal and Planning Processes in Transporation**	Weikl 5 SWS/ 6 Cr BV520009	**Public Transport Concepts, Planning and Operation**	Tsakarestos 4 SWS/ 6 Cr BGU56057	**Infrastructure Planning**	Lechner 5 SWS/ 6 Cr BV340009									**2 SS**
	C1: Transport Economy and System Assessment (Lecture)	Weikl	C: Public Transport Concepts, Planning and Operation	Tsakarestos	C2: Infrastructure Design	Lechner									
	C2: Transport Economy and System Assessment (Exercise)	Fehn, Hamm													
	C3: Transporation Policies and Project Design	Wulfhorst													
3 WS	**Project Seminar**	3 SWS/ 12 Cr BGU70010													**3 WS**
	Project Seminar	Antoniou													
4 SS	**Master's Thesis**	6 Months/ 30 Cr BV00MTTS													**4 SS**
	Master's Thesis														

	Modules "Transportation Systems" - FPSO 20211 August, 2022				
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Semester	**Elective modules for choosing the Field of Study** Students have to complete elective modules with at least six credits				Semester
1 WS					**1 WS**
2 SS	**Transportation Demand Management (Field of Study III)**	Wulfhorst 6 SWS/ 6 Cr BV520002	**Intelligent Transport Systems (ITS) (Field of Study II)**	Niels 4 SWS/ 6 Cr BV560023	**2 SS**
	C1: Modelling in Integrated Land-use and Transport Systems	Wulfhorst	C1: Traffic Control - Extension (VI)	Bogenberger, Metzger, Niels	
			C2: ITS System Architectures and Applications	Antoniou	
	C2: Seminar	Wulfhorst			
3 WS	**Road and Rail Design (Field of Study I)**	Lechner 6 SWS/ 6 Cr BV340019			**3 WS**
	C1: Road Design	Lechner			
	C2: Rail Design	Lechner			
4 SS					**4 SS**

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Elective modules

Semester 1 WS

Module	Details	Module	Details	Module	Details
Computer Aided Traffic Engineering with Matlab	2 SWS/ 3 Cr BV610020 Neidhardt	Urban Ropeways	Glöckl 2 SWS/ 3 Cr BGU56056 Bogenberger, Glöckl	Accessibility Planning	2 SWS/ 3 Cr BGU52020 Wulfhorst

Semester 2 SS

Module	Details	Module	Details	Module	Details	Module	Details	Module	Details	Module	Details
Construction of Traffic Infrastructure	3 SWS/ 3 Cr BV340008 Lechner	Instruments of Land Mobilisation	3 SWS/ 3 Cr BV400021 de Vries	Traffic Control - Extension	Nlels 2 SWS/ 3 Cr BV560006 Bogenberger, Metzger, Niels	Autonomous Vehicles and Transportation Systems	Spangler 3 SWS/ 3 Cr BGU56055 Bogenberger/ Spangler	Traffic Data - Collection and Analysis	Spangler 3 SWS/ 3 Cr BGU56048 Spangler	Mulitmodal and intermodal freight transport	4 SWS 6 Cr BGU70002 Antoniou	Optimization for Transportation Systems	4 SWS 6 Cr BGU70003 Antoniou	Geoinformation	4 SWS 6 Cr LRG3003 Meng
Urban Transportation Systems: Operations Research&Emerging Mobility Technologies (C1, C2)	4 SWS 6 Cr BGU70008 Antoniou	Modeling of Integrated Land-use and Transport Systems	3 SWS/ 3 Cr BV520001 Wulfhorst	Evaluation of Transport Projects ad Policies	2 SWS/ 3 Cr BGU52016 Wulfhorst	Modelling of Transport-Related Emissions	2 SWS/ 3 Cr BGU52013 Wulfhorst	Visualization of Spatial Data in Transportation	2 SWS/ 3 Cr BGU52015 Wulfhorst	Urban and Regional Planning	2 SWS/ 3 Cr BV210013 Wulfhorst	Statistical Learning and Data Analytics for Transpoation Systems	4 SWS 6 Cr BGU70006 Antoniou	Mixed Methods for Mobility Data Research (C1, C2)	4 SWS 6 Cr ED150004 Wulfhorst
Modelling Tools and Practice Insight for Traffic Engineering (C1, C2, C3)	Dandl 6 SWS/ 6 Cr ED150005, Dandl, Tsakarestos	Applied Transport Modelling	2 SWS/ 3 Cr BGU68007 Moeckel	Transportation Demand Management (C1, C2)	6 SWS/ 6 Cr BV520002 Wulfhorst	Professional Software Development	3 SWS 4 Cr BGU65006 Borrmann	What's cooking? Founding start-ups and unicorns in real time	8 SWS 12 Cr WI001278 Welpe	Intelligent Transport Systems (ITS) C1: Traffic Control Extension C2: ITS System Architectures and Applications	Nlels 4 SWS/6 Cr BV560023 Bogenberger, Metzger, Niels, Antoniou	Road Safety	6 SWS 6 Cr BGU68006 Moeckel/Antoniou		
Applied Transport Modeling with MATSim	4 SWS 6 Cr BGU68012 Moeckel	Applied Transport Planning in Developing Countries	2 SWS 3 Cr BGU68009 Moeckel	Advanced Parallel Computing and Solvers for Large Problems in Engineering (C1, C2)	3 SWS 5 Cr MW1746 Gee De/En	Politics for Ro-cket Scientists: An Introduction to Political Scien-ce for Non-Politi-cal Scientists (C1, C2)	4 SWS 6 Cr POL00011 Büthe	Product Ergonomics (C1, C2) Deutsch Abhaltung auch im WS	3 SWS 5 Cr MW0101 Bengler	ITS-System Architectures and Applications	2 SWS/ 3 Cr BGU56034 Antoniou	Local Public Transport Strategy and Organization	3 SWS/ 3 Cr BV580013 Wulfhorst

Semester 3 WS

Module	Details	Module	Details	Module	Details	Module	Details	Module	Details	Module	Details
Road and Rail Design (C1, C2)	6 SWS/ 3 Cr BV340019 Lechner	Rail Design	3 SWS/ 3 Cr BV340001 Lechner	Air Transport and Airports	2 SWS/ 3 Cr BV340021 Lechner	Discret Choice Methods for Transportation Systems Analysis	4 SWS/ 6 Cr BGU70004 Antoniou	Service Concepts and Operation Models for New Mobility Solutions for Mixed-Use Residential Developments	3 SWS/ 3 Cr BGU68011 Moeckel	Object-Oriented Programming for Transport Engineers	4 SWS/ 6 Cr BGU68010 Moeckel	Microscopic Traffic Simulation - Calibration and Dynamic Applications (C1, C2)	Antoniou 5 SWS/ 6 Cr ED150002		
Transportation Economics	4 SWS/ 6 Cr BGU70005 Antoniou	Road Design	3 SWS/ 3 Cr BV340002 Lechner	Special Topics on Model Calibration	2 SWS/ 3 Cr BGU70007 Antoniou	Seminar	3 SWS/ 3 Cr BV520012 Wulfhorst	Computer Aided Traffic Engineering with Matlab	2 SWS/ 3 Cr BV610020 Neidhardt	Urban Infrastructure Design	Glöckl/Keler 3 SWS/ 3 Cr ED150009 Glöckl, Keler		
Spatial Modelling: Tools to evaluate planning strategies	3 SWS/ 3 Cr BGU68001 Moeckel	Governance	3SWS/ 3 Cr BV560011 Wulfhorst	Urban Develop-ment through Mobility Deutsch/ Englisch (Abhaltung auch im SS)	2 SWS/ 3 Cr AR30213 Wulfhorst/ Thierstein	Local Public Transport Strategy and Organization	2 SWS/ 3 Cr BV 580013 Wulfhorst	Planning and Design of Cycling Facilities	4 SWS/ 6 Cr BGU68013 Moeckel	Research Design: How to tackle a Master's Thesis	3 SWS/ 3 Cr BGU68002 Moeckel		

Semester 4 SS

Module	Details
Research Design: How to tackle a Master's Thesis	3 SWS/ 3 Cr BGU 68002 Moeckel