Joint European Master in Environmental Studies (JEMES)

Technische Universität Hamburg-Harburg, Germany (TUHH)

Semester	Stream	Module	ECTS Minimum
1	Technology Engineering	Block A Fundamentals	8
		Block B Treatment Processes and Control Choose two of the three modules (a-c) with an extend of 10 ECTS each	20
		Soft Skills Choose either from Block I or Block II courses with an extend of 2 ECTS in total	2
		Block I Business and Management	
		Block II Complementary Courses	
2	Technology Engineering	Block C Choose three of the four modules (a-d) with an extend of 9 ECTS each	27
		Soft Skills Choose either from Block I or Block II courses with an extend of 3 ECTS in total	3
		Block I Business and Management	
		Block II Complementary Courses	
3	Technology Engineering	Project work	15
		Block D Choose one of the two modules (a/b) with an extend of 12 ECTS	12
		Soft Skills Choose either from Block I or Block II courses with an extend of 3 ECTS in total	3
		Block I Business and Management	
		Block II Complementary Courses	
4	Technology Engineering	Master thesis	30
Total			**120**

SEMESTER 1: Technology Engineering Stream - TUHH

Subject	Sem	VL, UE, PR hours per week	ECTS
Block A: Fundamentals			
Integrierte Umweltschutztechnik **Integrated Pollution Control**	1	2 VL	2
Lärmschutz **Noise Control**	1	2 VL	2
Umweltanalytik **Environmental Analysis**	1	2 VL	2
Sicherheits-, Gesundheits- und Umweltmanagement **Health, Safety and Environmental Management**	1	2 VL	2
Umweltmikrobiologie **Environmental Microbiology**	1	2 VL	2
Grundlagen der Strömungsmechanik **Fundamentals of Fluid Mechanics**	1	2 VL	2
Block B: Treatment Processes and Control / Module a			
Technologien der Abwasserbehandlung I **Wastewater Treatment Technologies I**	1	2 VL + 1 UE	4
Physikalisch – chemische Reinigungsverfahren **Physico-Chemical Water Treatment**	1	2 VL	2
Siedlungswasserwirtschaftliches Praktikum II **Practical Course in Water and Wastewater Technology II**	1	2 PR	2
Gewässerschutz und Abwassermanagement **Water Protection and Wastewater Management**	1	2 VL + 1 UE	4
Block B: Treatment Processes and Control / Module b			
Grundwasserhydrologie **Groundwater Engineering**	1	2 VL	2
Geoinformationssysteme in Wasserwirtschaft und Umwelt **Geoinformation-systems in Water Resources and Ecology**	1	2 PR	2
Naturnaher Wasserbau **Environmental Hydraulic Engineering**	1	2 VL	2
Modellierung von Strömungen in Flüssen und Ästuaren **Modelling of Flow in Rivers and Estuaries**	1	2 VL + 1 UE	4
Modellierung von Prozessen der Wasser- und Abwasserbehandlung **Process Modeling of Water and Wastewater Treatment**	1	2 VL + 1 UE	4
Block B: Treatment Processes and Control / Module c			
Abfallressourcenwirtschaft **Waste Resources Management**	1	2 VL	2
Altlasten und Deponierung **Contaminated Sites and Landfilling**	1	2 VL + 1 UE	4
Aerobe und Anaerobe Abfallbehandlung **Aerobic and Anerobic Waste Treatment**	1	2 VL + 1 UE	4

SEMESTER 2: Technology Engineering Stream - TUHH

Subject	Sem	VL, UE, PR hours per week	ECTS
Block C: Module a			
Gewässerkunde **Surface Hydrology**	2	2 VL	3
Wasser- und Abwassersysteme im globalen Kontext **Water and Wastewater Systems in a Global Context**	2	2 VL + 1 UE	4
Hydrobiologie **Hydrobiology**	2	1 VL + 1 UE	2
Block C: Module b			
Umweltchemie und Toxikologie **Environmental Aquatic Chemistry and Toxicology**	2	2 VL	3
Siedlungswasserwirtschaftliches Praktikum I **Practical Course in Water and Wastewater Technology I**	2	2 PR	2
Ingenieurgeochemie **Environmental Geochemical Engineering**	2	2 VL	2
Umweltqualitätsmanagement **Management of Environmental Quality**	2	2 VL	2
Block C: Module c			
Regenerative Energien **Renewable Energy**	2	2 VL	3
Schlammbehandlung **Sludge Treatment**	2	2 VL	2
Thermische Abfallverwertung **Thermal Waste Treatment Processes**	2	2 VL + 1 UE	4
Block C: Module d			
Angewandte Grundwassermodellierung **Applied Groundwater Modeling**	2	1 VL + 1 UE	3
Umweltbewertung **Environmental Assessment**	2	2 VL + 1 UE	4
Methoden der Technikbewertung **Methods of Technology Assessment**	2	2 VL	2

SEMESTER 3: Technology Engineering Stream - TUHH

Subject	Sem	VL, UE, PR hours per week	ECTS
Block D: Module a Sustainable Water Management and Ecological Sanitation in Developing Countries			
Umwelttechnik für ländliche Regionen **Environmental Techniques in Rural Areas**	3	2 VL	2
Kosteneffiziente Methoden der Wasser- und Abwasseranalytik **Low-cost procedures for Water and Watewater Analysis**	3	2 PR	2
Ressourcenorientierte Abwassersysteme: Prinzipien, Praxisbeispiele und Implementierung von High- und Low-Tech Optionen **Resources oriented Sanitation: Principles, Practice and Implementation of High- and Low-Tech Options**	3	2 VL + 1 PR	4
Nachhaltige Wasserwirtschaft **Sustainable Water Management**	3	1 VL + 1 UE	3
Trends in der nachhaltigen Wasserwirtschaft **Trends in Sustainable Water Strategies**	3	1 UE	1
Block D: Module b Bioengineering			
Praktikum Wasserchemie **Practical Course in Aquatic Chemistry**	3	3 PR	4
Technische Biologie **Technical Biology**	3	1 VL	1
Technisches umweltmikrobiologisches Praktikum **Technical and Environmental Microbiology Practical Course**	3	2 VL	2
Technische Mikrobiologie **Technical Microbiology**	3	2 VL	2
Energie aus Biomasse **Energy from Biomass**	3	2 VL	3
Trends der Forschung in der Wasserwirtschaft **Trends in Water Research**	3	1 UE	1

VL = Lecture
UE = Exercise
PR = Practical Course