

Modulbezeichnung	Water Reuse
Semester (Häufigkeit)	WPM (nach Bedarf)
ECTS-Punkte (Dauer)	6 (1 Semester)
Art	Wahlpflichtmodul
Sprache(n)	English
Studentische Arbeitsbelastung	60 h Kontaktzeit + 120 h Selbststudium
Voraussetzungen (laut MPO)	N/A
Empf. Voraussetzungen	N/A
Verwendbarkeit	MTCE
Prüfungsart und -dauer	(K1+R)/K2 + EA
Lehr- und Lernmethoden	Lecture and practical course
Modulverantwortliche(r)	G. Illing
<p>Qualifikationsziele After completing the module, students will be able to ...</p> <ul style="list-style-type: none"> • differentiate between impurities in used water and methods of water recycling • choose suitable methods, materials and technologies and combine machinery for specific cleaning tasks • to calculate important parameters in water cleaning technology • to combine water cleaning technologies to meet the requirements <p>by ...</p> <ul style="list-style-type: none"> • using, applying and combining water cleaning and knowledge provided • using flowcharts, choice of water treatment technology, assessment of water types, calculating of specific material-constants • design and application to specific problems, calculating group discussion and project work <p>in order to ...</p> <ul style="list-style-type: none"> • be able to select suitable design variants for selected areas of application • to perform calculations to assess the scope and efficiency of water treatment plants and to combine different water treatment processes • to maintain the efficiency of water treatment processes 	
<p>Lehrinhalte Challenges for recycling and reuse of water. Basic water cleaning processes including filter technologies, membrane filtration and reverse osmosis. Concepts for the description of molecular transport models in membranes, characterisation of membranes, materials, processing and membrane modules. Application of membrane processes and calculations to evaluate the performance. Challenges in practical operation. Use of new technologies for disinfection, removal of trace substances and particles.</p>	
<p>Literatur Lecture manuscript Nunes, S., Peinemann K., Friedrich, H., Membrane Technology In The Chemical Industry, 2006 Pinnekamp, J., Membrane Technology for Waste Water Treatment, 2007 Wilhelm, S., Wasseraufbereitung, Springer, 2008</p>	
Lehrveranstaltungen	

Dozenten/-innen	Titel der Lehrveranstaltung	SWS
G. Illing	Water Reuse	4