


Data:	SSSE. MA. Nr. 3653 / Examination number: 43112	Version: 24.09.2018 	Start Year: WiSe 2018
Module Name:	<b>Selective Separation of Strategic Elements</b>		
(English):			
Responsible:	<a href="#">Haseneder, Roland / Dr. rer. nat.</a>		
Lecturer(s):	<a href="#">Haseneder, Roland / Dr. rer. nat.</a>		
Institute(s):	<a href="#">Institute of Thermal, Environmental and Natural Products Process Engineering</a>		
Duration:	1 Semester(s)		
Competencies:	On completion of the course the student shall be able to explain membrane technology and the different applications like extraction and membrane assisted processes regarding the separation of value products. Focus is put on strategic elements. They can use their physico-chemical knowledge on membrane separation, development of hybrid operation systems and the influences for practical applications and are familiar with the methods and problems related to separation devices. Due to the seminar the students will be able to discuss the current literature on the topic.		
Contents:	<ul style="list-style-type: none"> <li>• membranes, modules, hybrid processes</li> <li>• driving forces, transport resistances</li> <li>• structures, materials</li> <li>• mass transfer</li> <li>• module construction</li> <li>• MF, UF, NF, RO</li> <li>• standard applications</li> <li>• scaling, fouling effects</li> <li>• special applications: mine water treatment, leaching solutions, resourcerecovery</li> <li>• internship to membrane processes</li> </ul>		
Literature:	Heinrich Strathmann: Introduction to Membrane Science and Technology, Wiley-VCH, 2011 Anil K. Pabby, Syed S.H. Rizvi, Ana Maria Sastre Requena: Handbook of Membrane Separations, CRC-Press 2008		
Types of Teaching:	S1 (WS): Lectures (2 SWS) S1 (WS): Seminar (1 SWS) S1 (WS): Practical Application (1 SWS)		
Pre-requisites:			
Frequency:	yearly in the winter semester		
Requirements for Credit Points:	For the award of credit points it is necessary to pass the module exam. The module exam contains: KA [90 min]		
Credit Points:	5		
Grade:	The Grade is generated from the examination result(s) with the following weights (w): KA [w: 1]		
Workload:	The workload is 150h. It is the result of 60h attendance and 90h self-studies.		