

<b>Module title</b>	Global Changes and Sustainable Development – RWTH Aachen
<b>Identifier</b>	3015865
<b>Duration (Semester)</b>	one semester
<b>Cycle (Semester)</b>	winter semester
<b>Valid from</b>	winter semester 2017
<b>Valid until</b>	
<b>Module level</b>	Master
<b>Content</b>	This course is an introduction to the graduate program in Sustainable Water and Energy Management. It focuses on sustainable development and global changes - vital issues for humanity - with specific attention to the challenges in Egypt and developing countries and their transition from unsustainable to sustainable development. Topics include examples of unsustainable development and global challenges, rethinking established ways of production and consumption; solid waste management, types of green business, the interrelationship between local and global challenges, economic growth, population growth; finding new ways of greening economics, water challenges and opportunities, renewable energies and energy efficiency, green building, sustainable agriculture, and climate change. The course covers also the integrated approaches to Water-Energy-Food Nexus and possible applications. The course prepares the students to face the community challenges and enable them to introduce the concept of sustainable development in the form of action plan
<b>Learning Objectives/ Learning Outcomes</b>	On completing this course, the student should be able to: <ul style="list-style-type: none"> <li>· Understand and analyze the interrelationship and interdependency between global changes and human activities.</li> <li>· Understand and evaluate a broad view of factors and barriers in local actions related to water, solid waste management, energy, agriculture, and consumption/production management that have led to concern about unsustainable development and global changes.</li> <li>· Demonstrate knowledge and understanding of the field of sustainable development and ability to introduce change in the community that leads to sustainable development. Acquire skills necessary to make change through engagement in a community-based project.</li> </ul>
<b>(Study-Specific) Prerequisites</b>	None
<b>References</b>	<ul style="list-style-type: none"> <li>• T. P. Soubbotina, Beyond Economic Growth, Second Edition: An Introduction to Sustainable Development. 2004.</li> <li>• United Nations Environment Programme, ABC OF SCP: Clarifying Concepts on Sustainable Consumption and Production. 2010.</li> <li>• M. L. Ribeiro Viotti, "A 10-year framework of programmes on sustainable consumption and production patterns," 2012.</li> <li>• D. Hoorweg and P. Bhada-Tata, What a waste: a global review of solid waste management. 2012.</li> <li>• United Nations Framework Convention on Climate Change, Climate Change: Impacts, Vulnerabilities and Adaptation in Developing Countries. 2007. · "The Sustainability Literacy Test." [Online]. Available: <a href="http://www.sustainabilitytest.org/en/subsustainability_home">http://www.sustainabilitytest.org/en/subsustainability_home</a>.</li> <li>• S. Waslekar, The Blue Peace - Rethinking Middle East Water. 2011.</li> <li>• A. Y. Hoekstra, A. K. Chapagain, M. M. Aldaya, and M. M. Mekonnen, The Water Footprint Assessment Manual. 2011.</li> <li>• Raureif, "Virtual Water App." [Online]. Available: <a href="https://itunes.apple.com/en/app/virtualwater/id369876250?mt=8">https://itunes.apple.com/en/app/virtualwater/id369876250?mt=8</a>.</li> <li>• D. Ahuja and M. Tatsutani, "Sustainable energy for Developing Countries," 2008.</li> </ul>
<b>Language</b>	English
<b>Examination Terms</b>	Graded written exam. There are no admission requirements for attending the written exam.
<b>Miscellaneous</b>	

<b>Module coordinator</b>	Univ.-Prof. Dr.-Ing. Heribert Nacken			
<b>ETCS credits</b>	5			
<b>Contact time (WSH)</b>	2			
<b>Examination duration (min)</b>	0			
<b>Total hours (h)</b>	120			
<b>Contact hours (h)</b>	30			
<b>Self-study hours (h)</b>	90			
<b>Exam node (Kennung)</b>				
<b>Title</b>	<b>ECTS Credits</b>	<b>Contact time (WSH)</b>	<b>Recommended Semester (Study start winter)</b>	<b>Recommended Semester (Study start summer)</b>
Exam Global Changes and Sustainable Development (301586501)	5	0	3rd semester	no semester recommended
<b>Offer node</b>				
<b>Title</b>	<b>ECTS Credits</b>	<b>Contact time (WSH)</b>	<b>Recommended Semester (Study start winter)</b>	<b>Recommended Semester (Study start summer)</b>
Lecture Global Changes and Sustainable Development	-	2	3rd semester	no semester recommended
Exercise: Global Changes and Sustainable Development	-	0	3rd semester	no semester recommended