

### 1.3.2 Solar thermal energy (University of Oldenburg)

<b>Name of Module/Course</b>	Solar thermal energy			
<b>Short description</b>	After successful completion of the course students should be able to: <ul style="list-style-type: none"> <li>• understand, describe and compare major technologies for solar energy use: solar thermal and photovoltaic systems</li> <li>• analyse various system components and their interconnections within a solar energy system.</li> <li>• critically appraise and assess various technologies for solar energy use and components involved in such solar systems.</li> <li>• size and evaluate the performance of solar systems as a function of their operation conditions, components and system layout</li> <li>• critically evaluate non-technical impact and side effects when implementing renewable energy supply systems</li> </ul>			
<b>Name of Programme</b>	Sustainable Energy Technologies (SuRE); European Renewable Energy Master (EMRE)			
<b>Name of University</b>	Oldenburg			
<b>Name of Lecturer</b>	Dr. Herena Torio			
<b>Responsible University lecturer</b>	Dr. Herena Torio			
<b>Credit Points</b>	<b>SWS</b>	<b>Attendance (h)</b>	<b>Self-study (h)</b>	<b>Total workload (h)</b>
3	2	28	62	90
<b>Start &amp; end dates, WS</b>		<b>timeslot:</b>		
Okt – Jan		Friday, 12:15 – 13:45		
<b>Registration until</b>		<b>Number of possible AGEP participants</b>		
10.10.2021		5		
<b>Content and goals of qualification</b>	This course gives an overview on solar thermal technologies. Main focus hereby are the scientific principles of components and their technical description as well as first suitable system performance assessment methods. <ul style="list-style-type: none"> <li>• Assessment of solar thermal ambient parameters: regional global, diffuse, reflected solar radiation on horizontal and on tilted plane, ambient temperature</li> <li>• Solar thermal system components: collectors; heat exchangers; thermal storage; thermally driven compression chillers</li> <li>• Solar cooling systems and components</li> <li>• Characterization of solar thermal systems, their operation and performance</li> <li>• F-Chart and Utilizability methods as main methods for assessing system performance</li> </ul>			

<b>Preconditions for participation</b>	
<b>Teaching Methods</b>	Videos, blog and digital smart boards
<b>lesson format (online/face-to-face)</b>	Online
<b>Assessment method</b>	Referat
<b>language</b>	English
<b>Inscription external student</b>	