

Number of module: 8	Module: Solar Energy – Converter
Coordinator of module	Prof. Dr. F. Dildey
Lecturer	Prof. Dr. F. Dildey
Period	1 th and 2 nd semester
Credits	5
Workload	On campus program: 64 h, self study: 86 h.
Status	optional
Prerequisites	physics, electrical engineering, electronic devices
Max. number of participants	25
Language	English
Skills to be acquired / Learning objectives	
<p>Subject based and methodical skills The students are able to ...</p> <ul style="list-style-type: none"> - explain how solar energy is converted to electricity by a solar cell – describe structures and production processes of solar cells using different semiconductors and technologies - estimate consequences of changing cell structures on properties of devices - overview manufacturing process of photovoltaic modules - select measurement methods to ensure quality of materials, cells, and modules - explain how solar energy is converted to thermal use by a collector - understand the role of the selective absorber to minimize radiation losses - describe structures like flat-plate and evacuated tube collectors - select the proper type of domestic hot water tank for a certain kind of plant - lay out a plant for solar thermal water heating <p>Personal and social skills The students are able to ...</p> <ul style="list-style-type: none"> - join solar cell and module manufacturing industry and research laboratories - contribute to develop low cost production processes - act as person to turn to for module producers - join collector fabrication industry and research laboratories - develop concepts for integration of solar thermal systems with other energy sources - advise consumers in planning a solar thermal plant - show the benefit of solar systems to save primary energy 	