

E – Charakteristika studijního předmětu/Subject Specification					
Název studijního předmětu / Subject title	Optional Module /Internat. Project W15 Photovoltaic				
Typ předmětu / Subject type	Selectable obligatory subject		dopor. ročník / semester/ recommended year / semester	2nd year 1st term	
Rozsah studijního předmětu / Study load in hours and credits		hod. za týden / weekly load	2	Kreditů / Credits	5
Jiný způsob vyjádření rozsahu / Other expression of study load					
Způsob zakončení / Assessment	Written exam		Forma výuky / Form of teaching	Lecturers	
Další požadavky na studenta / Other demands on students					
The subject Photovoltaic is selectable from a catalogue of optional modules. It is provided together with a international project work. The amount for both components, the selectable obligatory subject and the project work is 5 credits.					
Vyučující / Lecturer	Professor Dr.-Ing. Stephan Kühne				
Stručná anotace předmětu / Subject annotation					
fundamentals of the photovoltaic (conductivity in semiconductors and metals, intrinsic conduction and extrinsic conduction) air-mass-calculation and air-mass-factor theory of the photovoltaic effect equivalent electrical circuit of a solar cell parallel and serial connection of solar cells to module (current and voltage increase) current-voltage-characteristic curve of solar-modules with resistive load electrical an mechanical parameters of solar modules hot spots in solar generators MPP-Tracking (maximum power point) electrical converters DC/AC and power electronic the renewable energy law in Germany planning, design and installation of solar plants for apartment buildings					
Informace ke kombinované nebo distanční formě / Information for students in external form of study					
Rozsah konzultací (soustředění) / Consultations, study meetings		hodin za týden / hours per week			
Rozsah a obsahové zaměření individuálních prací studentů a způsob kontroly / Individual student work – type, load, content and way of checking					
Studijní literatura a studijní pomůcky / Reading list and study utilities					
Solarpraxis AG: <i>Photovoltaic for professionals</i> , 01.2007, ISBN-10: 3-934595-68-5, language: english Markvart, Thomas; Thomas Markvart, Luis Castaner: <i>Practical Handbook of Photovoltaics, Fundamentals and Applications</i> , publisher: Elsevier Science & Techno, 01.2003, ISBN-13: 9781856173902, language: english Stuart R. Wenham, Martin A. Green, Muriel E. Watt, Richard Corkish: <i>Applied Photovoltaics</i> , 01.2007, publisher: Earthscan, ISBN-10: 1-84407-401-3, language: english					