

Module title		Abbreviation
Electrochemical Energy Storage and Conversion		o8-FU-EEW-152-m01
Module coordinator		Module offered by
holder of the Chair of Chemical Technology of Material Synthesis		Chair of Chemical Technology of Material Synthesis
ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--
Duration	Module level	Other prerequisites
1 semester	undergraduate	--
Contents		
Chemistry and application of battery systems (aqueous and non-aqueous systems like lead, nickel cadmium and nickel metal hydride, sodium sulfur, sodium nickel chloride, lithium ion accumulators), electrochemical double layer capacitors, redox-flow battery, fuel cell systems (AFC, PEMFC, DMFC, PAFC, SOFC), Solar cells (Si, CIS, CIGS, GaAs, organic and dye solar cell), thermoelectric devices.		
Intended learning outcomes		
The students gain comprehensive knowledge in the field of electrochemical energy storage and transformation and are able to apply this to scientific problems.		
Courses (type, number of weekly contact hours, language – if other than German)		
V (2) + P (1) + E (1)		
Method of assessment (type, scope, language – if other than German, examination offered – if not every semester, information on whether module is creditable for bonus)		
a) assessment and b) Vortestate/Nachtestate (pre and post-experiment examination talks approx. 15 minutes each, log approx. 5 to 10 pages each) and assessment of practical assignments (2 to 4 random examinations), weighted 7:3 Assessment offered: Once a year, summer semester Language of assessment: German and/or English		
Allocation of places		
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Additional information		
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Referred to in LPO I (examination regulations for teaching-degree programmes)		
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Module appears in		
Bachelor' degree (1 major) Nanostructure Technology (2015) Master's degree (1 major) Physics (2016) Master's degree (1 major) Nanostructure Technology (2016) Master's degree (1 major) Functional Materials (2016) Master's degree (1 major) Nanostructure Technology (2020) Master's degree (1 major) Physics (2020) Master's degree (1 major) Physics International (2020) Master's degree (1 major) Quantum Engineering (2020) Bachelor' degree (1 major) Nanostructure Technology (2020)		