

Course title	Lithium(ion) batteries
EDP designation	MECB101
Person(s) responsible for the module	Prof. Dr. Olivier Schecker
Lecturer	Prof. Dr. Olivier Schecker
Classification (level)	-
Recommended content requirements	Basic knowledge of physics, chemistry, materials technology.
Type	Lecture
Scope (SWS)	2
Scope (ECTS)	2
Workload (time hours)	-
Evaluation (grade; BE/NB)	BE/NB
Turnus	Each semester
Teaching and examination language	English - parts can be done in German depending of students
Contents	The course is divided into alternating lecture sessions and student presentations. Starting from fundamental aspects and electrochemical basics, cathodes, anodes, electrolytes and separators of general and specific lithium(ion) batteries are discussed as well as the latest developments. Finally, characterization possibilities will be presented and explained. The course may conclude with a practical part in the battery laboratory.
Intended learning outcomes (competencies)	Basic knowledge of the structure, materials and functioning of lithium and lithium-ion batteries. In addition, knowledge of the possible applications and the most important parameters that determine service life. Finally, important characterization methods are presented.
Teaching methods	<input checked="" type="checkbox"/> Lecture <input type="checkbox"/> Group work <input type="checkbox"/> Exercises <input type="checkbox"/> Simulation <input checked="" type="checkbox"/> Video feedback <input checked="" type="checkbox"/> Other: practical work
Audit performance	
Notes	
Usability	Lithium-Ion batteries production areas