

## AMIR: M2 TUD HOST UNIVERSITY (second year students)

AUTUMN SEMESTER			
Code	Name	ECTS	Comments
<b>Compulsory</b>			
11-01-4189	Advanced Research Lab (12) *	12	Lab work
11-01-4104	Functional Materials	6	
11-01-4105	Surfaces and Interfaces	5	
<b>Elective courses **</b>			
11-01-7342	Ceramic Materials: Syntheses and Properties. Part II	4	
11-01-2009	Concepts in Materials Physics	6	
11-01-7562	Computational Material science	5	
11-01-7301	Electrochemistry in Energy Applications II:	4	
11-01-8131	Engineering Microstructures - Processing, Char. and Application	4	
11-01-2027	Finite Element Simulation in Material Science	4	
11-01-9063	Focused Ion Beam Microscopy: Basics and Applications	4	
11-01-8202	Fundamentals and Techniques of Modern Surface Science	4	
11-01-2016	Interfaces - From wetting to friction	4	
11-01-7892	Introduction to Scanning Electron Microscopy	1	
11-01-2031	Machine Learning for Materials Science	6	
11-01-2001	Magnetism and Magnetic Materials	4	
11-01-7292	Materials Chemistry	4	
11-01-7042	Materials research with energetic ion beams - and nanotechnology	4	
11-01-4404	Materials Science for Renewable Energy Systems	5	
11-01-3018	Mathematical Methods in Materials Science	4	
11-01-9332	Mechanical Properties of Ceramic Materials	4	
11-01-2006	Mechanical Properties of Metals	4	
11-01-4109	Micromechanics for Materials Science	6	
11-01-2026	Organic Functional Materials: From LCD to Molecular Circuits	4	
11-01-2036	Point Defects in Ionic Solids	4	
11-01-3031	Polymer Materials	6	
11-01-2023	Porous Ceramics for Energy-Related Applications	4	
11-01-4004	Quantum Mechanics for Materials Science	6	
11-01-8162	Semiconductor Interfaces	4	
11-01-2035	Smart design and adv. processing of next-generation materials	4	
	TOTAL	<b>30</b>	
<b>SPRING SEMESTER</b>	THESIS	<b>30</b>	

\* The course “**Advanced Research Lab (12)**” can be replaced by the course **Advanced Research Lab (8)** 11-01-4188 with **8 ECTS**.

\*\* All eligible “**Elective courses**” are listed in “*elective courses M. Sc. Materials Science*” in the TUCaN system. Students without a bachelor degree in Materials Science or Physics can also use the course “Concepts in Materials Physics (6 ECTS)” on request.

° The module “**Discussion with Mentor**” is voluntary but recommended.