AMIS: M1 TUD HOME UNIVERSITY (first year students):

AUTUMN SEMESTER			
Code	Name	ECTS	Comments
Compulsory courses			
01-27-2M01/6	Venture Valuation	6	I&ENT
11-01-4191	Inno-Project Ia	3	I&ENT
11-01-4104	Functional Materials	6	
11-01-4105	Surf aces and Interfaces	5	
11-01-4109	Micromechanics for Materials Science *	6	
11-01-4101	Research Lab I	4	Lab work
	TOTAL	**30**	
SPRING SEMESTER			
Code	Name	ECTS	
Compulsory course			
11-01-4107	Advanced Characterization Methods of Materials Science	6	
11-01-4106	Theoretical Methods in Materials Science	6	
11-01-4199	Advanced Research Lab (Internship)	7	I&ENT
01-62-2G04	Entrepreneurship	5	I&ENT
11-01-4007	Career Coaching	0	I&ENT
11-01-4192	Inno-Project Ib	3	I&ENT
11-01-4193	Summer Camp	3	I&ENT
Elective courses **			
11-01-3029	Advanced Light Microscopy	4	
11-01-8191	Ceramic Materials: Syntheses and Properties. Part I	4	
11-01-2020	Computer Models of Solid Materials	4	
11-01-8291	Density Functional Theory: A Practical Introduction	4	
11-01-7300	Electrochemistry in Energy Applications I:	4	
01-16-1M02	Energy Finance-Integrated entrepreneurship & innovation course	3	I&ENT
11-01-2005	Fundamentals and Technology of Solar Cells	4	
11-01-2008	Graphen and Carbon Nanotubes - from fundamentals to applications	4	
11-01-7602	High Pressure Materials Synthesis	4	
11-01-2024	Hysteresis in Magnetic Materials	4	
11-01-7042	Materials research with energetic ion beams	4	
11-01-2004	Materials Science of Thin Films	4	
11-01-7070	Micromechanics and Nanostructured Materials	4	
11-01-9812	Phase Transitions in Materials	4	
11-01-3030	Polymer Processing	4	
11-01-8411	Properties of Ferroelectric Materials	4	
11-01-2019	Quantum Materials: Theory, Numerics, and Applications	4	
11-01-7060	Scanning probe microscopy in materials science	4	
11-01-2002	Spintronics	4	
11-01-2021	Technology of Nanoobjects	4	
	TOTAL	**30**	

* The Course "***Micromechanics for Materials Science***" can be replaced by the course "***Quantum Mechanics for Materials Science (6 ECTS)***"

** All eligible ***"Elective courses"*** are listed in "*elective courses M. Sc. Materials Science*" in the TUCaN system. Only the following courses cannot be chosen: "Materials Science for Renewable Energy Systems "or "Advanced Research Lab". Students without a bachelor degree in Materials Science or Physics can also use the course "Concepts in Materials Physics (6 ECTS)" on request.

AMIS: M2 TUD HOST UNIVERSITY (second year students)

AUTUMN SEMESTER			
Code	Name	ECTS	Comments
Compulsory			
11-01-4109	Micromechanics for Materials Science *	6	
11-01-4101	Research Lab I	4	
01-27-2M01/6	Venture Valuation (incl. Inno Project II)	6	I&ENT
	AMIS Winter School in Aalto	0	
Elective courses **			
11-01-7342	Ceramic Materials: Syntheses and Properties. Part II	4	
11-01-2009	Concepts in Materials Physics	4	
11-01-8241	Chemical Sensors: Basics and Applications	4	
11-01-7562	Computational Material science	5	
11-01-7301	Electrochemistry in Energy Applications II:	4	
11-01-8131	Engineering Microstructures - Processing, Characterization and Application	4	
11-01-8202	Fundamentals and Techniques of Modern Surface Science	4	
11-01-2017	In-situ Transmission Electron Microscopy	4	
11-01-2016	Interfaces - From wetting to friction	4	
11-01-2001	Magnetism and Magnetic Materials	4	
11-01-7292	Materials Chemistry	4	
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	
11-01-9090	Modern steels for automotive applications	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	
	TOTAL	**30**	
SPRING SEMESTER	THESIS	**30**	

* The Course "***Micromechanics for Materials Science***" can be replaced by the course "***Quantum Mechanics for Materials Science (6 ECTS)***"

** All eligible ***"Elective courses"*** are listed in "*elective courses M. Sc. Materials Science*" in the TUCaN system. Only the following courses cannot be chosen: "Materials Engineering", "Materials Science for Renewable Energy Systems "or "Advanced Research Lab". Students without a bachelor degree in Materials Science or Physics can also use the course "Concepts in Materials Physics (6 ECTS)" on request.