Study Plan (Musterstudienplan)

M. Sc. Chemistry of Materials

compulsory module (P) (Pflichtmodule), required elective module (W) (Wahlpflichtmodule) and associated credit points (LP) (Leistungspunkte)

1. Study Year/ 1. Studienjahr (winter semester)

MMC B001	Molecular Physics and Condensed Matter (Grundlagen der Molekül- und Festkörperphysik)*	10 LP
MMC B002	Chemistry of Molecules and Materials (Grundlagen der Molekül- und Materialchemie)*	10 LP
MMC B003	Structural Principles in Materials Science (Grundlagen der Materialwissenschaft)*	10 LP
MMC W001	Organization, Project Management and Reporting in the Scientific Field (Organisation, Projektmanagement und Reporting im wissenschaftlichen Umfeld)**	5 LP
MMC W002	German as a Foreign Language**	5 LP
MMC W003	Multi-Scale Simulation and Computational Materials Science I (Multiskalige Simulation und computergestützte Materialwissenschaft I)***	5 LP
MMC W004	Advanced Characterization Tools I (Fortgeschrittene Charakterisierungsmethoden I)***	5 LP
		Σ = 30 LP

Modules marked with * are basic and adjustment modules. Two have to be chosen according to § 5 and § 6 of the study regulations, depending on the Bachelor's degree.

One module marked with ** has to be selected. If German language skills are insufficient according to DSH level, the language course should be chosen. Otherwise, the English module should be chosen.

Modules marked with *** are elective modules. One has to be chosen according to § 5 and § 6 of the study regulations.

1. Study Year/ 1. Studienjahr (summer semester)

MMC P001	Functional Materials and Nanomaterials (Funktions- und Nanomaterialien)	10 LP
MMC P002	Materials Synthesis (Materialsynthese)	10 LP
MMC W005	Multi-Scale Simulation and Computational Materials Science II (Multiskalige Simulation und computergestützte Materialwissenschaft II)***	5 LP
MMC W006	Advanced Characterization Tools II (Fortgeschrittene Charakterisierungsmethoden II)***	5 LP
MMC W007	Advanced Simulation Methods (Fortgeschrittene Simulationsmethoden)****	5 LP
MMC W008	Nanobiotechnology, Molecular Aspects of Nanotechnology (Nanobiotechnologie, molekulare Aspekte der Nanotechnologie)****	5 LP
MMC W009	Advanced Polymer Synthesis (Fortgeschrittene Polymersynthese)****	5 LP
MMC W010	Batteries and Fuel Cells (Batterien und Brennstoffzellen)****	5 LP
MMC W011	Light-Matter Interactions and Optical Materials Design (Licht-Materie-Wechselwirkungen und optische Materialien)****	5 LP
		Σ = 30 LP

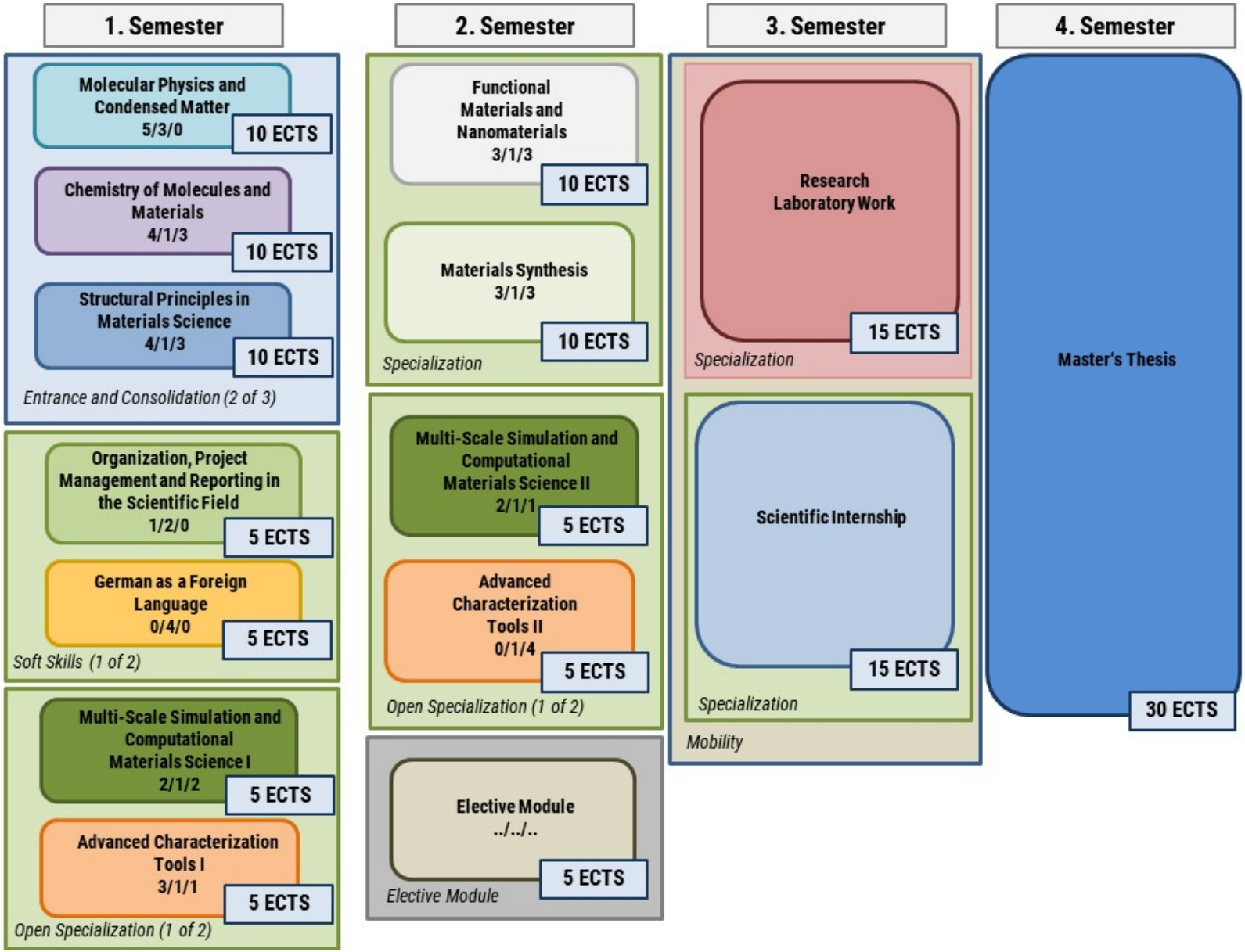
Modules marked with **** represent a possible choice according to § 5 and § 6 of the study regulations. One has to be chosen.

2. Study Year/ 2. Studienjahr (winter semester)

MMC P003	Research Laboratory Work (Forschungspraktikum)	15 LP
MMC P004	Scientific Internship (Wissenschaftliches Praktikum)	15 LP
		Σ = 30 LP

2. Study Year/ 2. Studienjahr (summer semester)

MMC P005	Master's Thesis (Masterarbeit)	30 LP
		Σ = 30 LP


1. Semester
Molecular Physics and Condensed Matter
5/3/0
10 ECTS
Chemistry of Molecules and Materials
4/1/3
10 ECTS
Structural Principles in Materials Science
4/1/3
10 ECTS
Entrance and Consolidation (2 of 3)
Organization, Project Management and Reporting in the Scientific Field
1/2/0
5 ECTS
German as a Foreign Language
0/4/0
5 ECTS
Soft Skills (1 of 2)
Multi-Scale Simulation and Computational Materials Science I
2/1/2
5 ECTS
Advanced Characterization Tools I
3/1/1
5 ECTS
Open Specialization (1 of 2)
2. Semester
Functional Materials and Nanomaterials
3/1/3
10 ECTS
Materials Synthesis
3/1/3
10 ECTS
Specialization
Multi-Scale Simulation and Computational Materials Science II
2/1/1
5 ECTS
Advanced Characterization Tools II
0/1/4
5 ECTS
Open Specialization (1 of 2)
Elective Module
../../..
5 ECTS
Elective Module
3. Semester
Research Laboratory Work
15 ECTS
Specialization
Scientific Internship
15 ECTS
Specialization
Mobility
4. Semester
Master's Thesis
30 ECTS