CHEMISTRY OF MATERIALS M.SC. – STUDY PLAN

1ST SEMESTER WINTER SEMESTER	2ND SEMESTER SUMMER SEMESTER	3RD SEMESTER WINTER SEMESTER	4TH SEMESTER SUMMER SEMESTER
Molecular Physics and Condensed Matter (MMC B001) 10 ECTS	**Functional Materials and Nanomaterials** (MMC P001) 10 ECTS	**Research Laboratory Work** (MMC P003) 15 ECTS	Master's Thesis (MMC P005) 30 ECTS
Structural Principles in Materials Science (MMC B003) 10 ECTS	**Materials Synthesis** (MMC P002) 10 ECTS		
Materials Chemistry Laboratory: Synthesis & Characterization (MMC B004) 5 ECTS	**Multi-Scale Simulation & Computational Materials Science I** (MMC W003) - 5 ECTS	**Multi-Scale Simulation & Computational Materials Science II** (MMC W005) - 5 ECTS	
	„required specialization" – 10 ECTS		
	Advanced Characterization Tools I (MMC W004) - 5 ECTS	**Advanced Characterization Tools II** (MMC W006) - 5 ECTS	
Foreign Language (MMC W002) 5 ECTS	**Elective Modules as „individual specialization"**	**Elective Modules as „individual specialization"**	
	15 ECTS		

compulsory module (total of 65 ECTS)

elective module (total of 25 ECTS): 10 ECTS „required specialization", 15 ECTS „individual specialization"

FRIEDRICH-SCHILLER-UNIVERSITÄT JENA

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CHEMISTRY OF MATERIALS M.SC. – MODULES AND EXAMS

	module title	module code	types of courses[1]	types of examination	Type of module[2]	ECTS	Required ECTS
1st Semester winter semester	Molecular Physics and Condensed Matter	MMC B001	L / S	written or oral exam (100 %)	C	10	10
	Structural Principles in Materials Science	MMC B003	L / S / E	written or oral exam (70 %) + laboratory report (30 %)	C	10	10
	Materials Chemistry Laboratory: Synthesis & Characterization	MMC B004	E / P	written laboratory reports (100 %)	C	5	5
	Foreign Language	MMC W002	S	active participation + written exam and + oral exam (passed/failed)	C	5	5
2nd Semester summer semester	Functional Materials and Nanomaterials	MMC P001	L / S / P	exam (70 %) + laboratory report (30 %)	C	10	10
	Materials Synthesis	MMC P002	L / S / P	exam (70 %) + laboratory report (30 %)	C	10	10
	Multi-Scale Simulation and Computational Materials Science I*	MMC W003	L / S / P	exam (70 %) + laboratory report (30 %)	E/RS	5	5
	Advanced Characterization Tools I*	MMC W004	S / P	written reports on lab practical (70 %) + oral presentation (30 %)	E/RS	5	
	Multi-Scale Simulation and Computational Materials Science I*	MMC W003	L / S / P	exam (70 %) + laboratory report (30 %)	E/IS	5	15
	Advanced Characterization Tools I*	MMC W004	S / P	written reports on lab practical (70 %) + oral presentation (30 %)	E/IS	5	
	Light-Matter Interactions and Optical Materials Design	MMC W011	L / S	written or oral exam (100 %)	E/IS	5	
	Advanced Polymer Synthesis	MMC W009	L / S	exam (100 %)	E/IS	5	
	Batteries and Fuel Cells	MMC W010	L / S / P	exam (50 %); laboratory report (30%); seminar presentation (20 %)	E/IS	5	
3rd Semester winter semester	Advanced Simulation Methods	MMC W007	L / E / P	written or oral exam (100 %)	E/IS	5	
	Nanobiotechnology, Molecular Aspects of Nanotechnology	MMC W008	L / S	written or oral exam (100 %)	E/IS	5	
	Project Management	MMC W001	L / S	Oral or poster pitch related on a personal research project (100 %)	E/IS	5	
	Light-Matter Interactions and Optical Materials Design	MMC W011	L / S	written or oral exam (100 %)	E/IS	5	
	Multi-Scale Simulation and Computational Materials Science II*	MMC W005	L / S / P	oral presentation of a mini project (100 %)	E/IS	5	
	Advanced Characterization Tools II*	MMC W006	L / S / P	Exam (75 %) + laboratory reports (25 %)	E/IS	5	
	Multi-Scale Simulation and Computational Materials Science II*	MMC W005	L / S / P	oral presentation of a mini project (100 %)	E/RS	5	5
	Advanced Characterization Tools II*	MMC W006	L / S / P	Exam (75 %) + laboratory reports (25 %)	E/RS	5	
	Research Laboratory Work	MMC P003	P	final report (100 %)	C	15	15
4th Semester	Master's Thesis	MMC P005	P	master's thesis (75 %) and it's oral presentation (25 %) during the last two months of thesis preparation	C	30	30

[1]: L = lecture; S = seminar; P = laboratory practical or practical course ; E = exercises

[2]: C = Compulsory; E = Elective (E/RS = elective as „required specialisation": 2 modules have to be chosen (10 ECTS) | E/IS = elective as „individual specialisation" (15 ECTS)

* the two modules, that haven't been chosen as „required specialization", can be selected as elective modules in „individual specialization" as well