

Program of Studies:	Master Program Bioinformatics
Name of the module:	NanoBioMaterials 1 (NanoBioMaterialien 1)
Abbreviation:	B-M-7
Subtitle:	-
Modules:	Lecture: 2 h (weekly)
Semester:	1-3rd semester / every winter semester
Responsible lecturer:	Tobias Kraus, Lola González-García
Lecturer:	Tobias Kraus, Lola González-García
Language:	english
Level of the unit/ Mandatory or not:	Graduate course / mandatory elective
Total workload:	90 h = 30 h of classes (lecture), 60 h of private study
Credits:	3
Entrance requirements:	None
Aims/Competences to be developed:	Knowledge of scale effects in materials, preparation of nanostructures, surface to volume relationship, forces at the nanoscale, electromagnetic properties of nanostructures, nanocomposites
Content:	<ul style="list-style-type: none"> • Introduction to Nanomaterials • Synthesis and structure of nanoparticles • Nanomechanics and DNA-Origami • Surface-to-volume relationship • Molecules on nanoparticles • Thin films and microfabrication • Nano- and Biotribology • Carbon Nanostructures • Electromechanical properties of nanostructures and composites • Nanocomposites for stability and protection • Transport properties and percolation
Assessment/Exams	Exam
Grade:	Grade of the exam
Literature:	Will be announced at the beginning of the course