

Joint Master's program Biomedical Engineering

X4M 2310 CAD - Techniques in design	Project, 4 SWS
Workload:	see related module
Credit-points:	5
Lecturer:	Dieter Warnack
Language:	English
Curriculum:	Master's program Biomedical Engineering, 2nd Semester
Prerequisites according to examination regulations	None
Recommended prerequisites:	<ul style="list-style-type: none">• CAD• Fluid Mechanics• Mechanics of Solids• Mathematics
Learning outcomes:	<p>After successful completion of this course, the students are capable to methods of virtual product design with several software packages under consideration of the modeling restrictions:</p> <ul style="list-style-type: none">• preliminary design with simplified models• CAD design• 3D solid and fluid virtual testing by means of 3D simulation tools• handling of interface problems between the packages• decision between alternative methods under consideration of the advantages and disadvantages of these methods
Content:	<p>Virtual prototype in 2D and 3D</p> <p>Virtual testing with simplified models</p> <p>Virtual testing with 3D models, FEM, CFD</p> <p>Outlook – further steps - Rapid Prototyping - experiments</p>
Literature:	<p>Course packs and/ or literature as recommended in class</p> <p>Computer software in the laboratory</p>
Examination:	Written examination and project (Portfolio)
Teaching methods:	Group-work, CAD-Design