

**Joint Master's program Biomedical Engineering**

<b>X4M 2340 Medical Robotics</b>	<b>Lecture, 2 SWS</b>
Workload:	see related module
Credit-points:	3
Lecturer:	Achim Schweikard
Language:	English
Curriculum:	Master's program Biomedical Engineering, 2nd Semester
Prerequisites according to examination regulations	None
Recommended prerequisites:	Basic knowledge in robotics
Learning outcomes:	After attending the lecture students have knowledge of: <ul style="list-style-type: none"><li>• the connection between robotics, imaging and navigation in medicine</li><li>• the process to mathematically describe robotics</li><li>• the basics of medical imaging</li><li>• the connection between navigation and robotics</li><li>• Knowledge about lecturer's current research projects</li></ul>
Content:	Emphasis in following order: <ul style="list-style-type: none"><li>• kinematics, path planning of robot systems</li><li>• medical navigation</li><li>• medical image processing</li><li>• robot programming</li><li>• sensors in medical applications</li><li>• surgery planning</li></ul>
Literature:	Latombe, J.: Robot Motion Planning. Dordrecht: Kluwer 1990 Craig, J.: Introduction to Robotics. Pearson Prentice Hall 2002
Examination:	Oral examination
Teaching methods:	LCD-projector