

Biomedical Engineering

Joint Program - Overview of Courses



UNIVERSITÄT ZU LÜBECK



1st Semester, 30 ECTS	2nd Semester, 30 ECTS	3rd Semester, 30 ECTS	4th Semester, 30 ECTS
<p>Collective Lectures - 10 ECTS</p> <p>System Theory (6 ECTS) Signals and Systems (3 ECTS) Numerical Methods (3 ECTS)</p> <p>MatLab – Workshop (4 ECTS)</p> <p>Medical Track - 20 ECTS</p> <p>Medicine (8 ECTS) Anatomy and Physiology (4 ECTS) Microbiology and Hygiene (4 ECTS)</p> <p>Natural Sciences (4 ECTS) Biomechanics (2 ECTS) Biophysics (2 ECTS)</p> <p>Medical Technology (8 ECTS) Medical Technology (6 ECTS) Medical Technology - Lab (2 ECTS)</p> <p>Technical Track - 20 ECTS</p> <p>Signal Processing (4 ECTS) Signal Processing (2 ECTS) Signal Processing - Lab (2 ECTS)</p> <p>Electronics and Optics (8 ECTS) Medical Electronics (4 ECTS) Photonics (4 ECTS)</p> <p>Design Engineering (8 ECTS) Design Methodology (2 ECTS) Design Methodology - Lab (2 ECTS) Material Science (4 ECTS)</p> <p>Control Systems (8 ECTS) Machine Learning (4 ECTS) Model Predictive Control (4 ECTS)</p> <p style="writing-mode: vertical-rl; transform: rotate(180deg);">choose 1 out of 2</p>	<p>Imaging (8 ECTS) Imaging (3 ECTS) Image Processing (3 ECTS) Numerical Methods - Lab (2 ECTS)</p> <p>Management (4 ECTS) Scientific Writing - Project (2 ECTS) Management Elective (2 ECTS)</p> <p>Electives (16 ECTS) Selected Electives (10 ECTS) Free Electives (6 ECTS)</p> <p>Medical Track</p> <p>Regulatory Affairs (online) (2 ECTS)</p> <p>Technical Track</p> <p>Medical Electronics – Project (2 ECTS)</p> <p>1st Semester: Collective Lectures all students</p> <p>Medical Track students without biomedical background</p> <p>Technical Track students with biomedical background</p> <p>compulsory</p> <p>compulsory – depending on precognition</p>	<p>Research Internship (24 ECTS)</p> <p>Student Conference (6 ECTS)</p> <p>Management Electives TH: Health Technology Assessment (2 ECTS) TH: Innovation Management and Marketing (2 ECTS) TH: Quality Management in Health Care (2 ECTS) TH: Successful Negotiation and Communication (2 ECTS)</p> <p>Free Electives Subjects can be chosen from any Master Program of the two Universities or the selected electives</p>	<p>Master Thesis (26 ECTS)</p> <p>Final Examination (4 ECTS)</p> <p>Selected Electives</p> <p>BME - program TH: Biophysics Lab (2 ECTS) TH/Uni: Clinical Application – project/excursion (2 ECTS) TH: Human Biochemistry – Lab (4 ECTS) TH: Medical Technology - Selected Topics (4 ECTS) Uni: Photonics II (4 ECTS) Uni: Specialized Biomechanics (2 ECTS)</p> <p>other programs Uni: Artificial Intelligence (winter term) (4 ECTS) TH: Computer Aided Techniques in Design (5 ECTS) Uni: Computer Vision (4 ECTS) TH/Uni: Implantable Hearing Devices (3 ECTS) Uni: Medical Deep Learning (6 ECTS) Uni: Medical Robotics (4 ECTS) Uni: Nuclear Imaging (3 ECTS)</p>