



Universität Ulm

Master of Science Advanced Materials (PO 2017)

Polymers in Medicine

Code 8822870948

ECTS credits 2

Attendance time 1

Language of instruction English

Duration 1 Semester

Cycle each Winter Semester

Coordinator Dr. Stefan Beck

Instructor(s) Dr. Stefan Beck

Allocation of study programmes Master Advanced Materials, elective module, 3. semester

Recommended prerequisites -

Learning objectives The course will give an idea about daily challenges in industrial R&D on polymeric biomaterials. Biomaterials are substances other than food or drugs contained in therapeutic or diagnostic systems that are in contact with tissue or biological fluids. Biomaterials play a central role in extra corporeal devices, from contact lenses to kidney dialyses, and are essential components of implants, from vascular grafts to cardiac pacemakers and fracture fixation devices. The development and availability of modern high tech polymers allowed for the improvement of patients' care in all fields of medicine.

Syllabus In this course, we will (1) gain an overview of the use of polymeric biomaterials in medicine, (2) discuss some examples of permanent and resorbable polymer implants in more detail, (3) take a look at legal and regulatory aspects, (4) learn about functional and design requirements when dealing with polymers in medicine, and (5) will look into some future concepts.

Literature will be announced by the lecturer

Teaching and learning methods lecture (1 h/week)

Workload 30 h lecture (attendance time)
30 h preparation
Total: 60 h

Assessment The grade of the module will be the grade of the oral or written (depending on the number of participants) exam. No prerequisites are necessary for exam registration.

Grading procedure The grade of the module will be the grade of the exam.

Basis for Basis for research in field of Polymers and biomaterials
