

COURSE GUIDE – short form

Academic year 2017-2018

Course name ¹	ADVANCED MATERIALS FOR MEDICAL APPLICATIONS					Course code		5MATAE DO 09	
Course type ²	DS	Category ³	DO	Year of study	5	Semester	2	No of credit points	6

Faculty	Materials Science and Engineering	Number of teaching and learning hours ⁴						
Field	Materials Engineering	Total	C	S	L	P	SI	
Specialization	MATAE	112	28	-	14	-	70	

Pre-requisites from the curriculum	Mandatory	-
	Recommended	-

Course objective ⁵	Defining the terms <i>biomaterial, implant, implanted device, medical device, and medical application</i> . Knowing specific requirements for a material used for the construction of a given medical device destined to an application. Understanding the concepts of biocompatibility and biofunctionality and the interaction between biologic and synthetic materials.
Specific objectives ⁶	Describing the main classes of materials for medical devices, their specific properties and the connection between processing-structure and properties-utilization.
Course description ⁷	Biomaterial, implant, implanted device, medical application. Biofunctionality and biocompatibility. Material classes for medical devices. Properties control through processing. Material degradation. Surface changes.

Assessment system		Schedule ⁸	Percentage of the final grade (minimum grade) ⁹
Continuous assessment	Class tests during the semester		Week 1, 8
	Activity during tutorials/laboratory works/projects/practical work		Week.1-14
	Specialty home works		Week. 14
Final assessment	Final assessment form ¹⁰	Exam	60 %
	Tasks and their development conditions: Written exam under the form of grid test with 40 questions, each one with 4 variants among which one correct		

Course tenant	Prof.univ.dr.ing. Leandru-Gheorghe BUJOREANU
Tenant of applications	Asist.univ.ing. Elena MIHALACHE

¹ Course name from the curriculum

² DF – fundamental, DID – in the field, DS – specialty, DC – complementary (from the curriculum)

³ DI – imposed, DO –optional, DL – facultative (from the curriculum)

⁴ Points 3.8, 3.5, 3.6a,b,c, 3.7 from the Course guide – extended form

⁵ According to 7.1 from the Course guide – extended form

⁶ According to 7.2 from the Course guide – extended form

⁷ Short description of the course, according to point 8 from the Course guide – extended form

⁸ For continuous assessment: weeks 1 – 14, for final assessment – colloquium: week 14, for final assessment-exam: exam period

⁹ A minimum grade might be imposed for some assessment stages

¹⁰ Exam or colloquium