

2nd Year of the study – Modul: Medical biotechnology - Obligatory Courses

MEDBIOT-01: BIOTECHNOLOGY IN HEALTH CARE	
GENERAL INFORMATION	
Course Coordinator(s)	Ljubica Glavaš-Obrovac, PhD, full prof. with tenure
Associate(s)	Teuta Opačak-Bernardi, PhD, Assist. prof. Stana Tokić, PhD, Assist. prof.
Study Programme	Interdisciplinary Graduate Study Programme in English: Biotechnology
Course Status	Obligatory
Year of Study, Semester	2 nd Year / 3 rd Semester
Credits (ECTS)	2
Teaching Method (number of classes)	Lectures: 15; Seminars: 15; Exercises: -
Expected Number of Students in the Course	25-30
COURSE DESCRIPTION	
Course Aims	
The objective of this course is better understanding the application of achievements of biotechnology in the health care and disease management.	
Prerequisites for Enrolment and the Entry Competencies Required for the Course	
Completed undergraduate university study programme from the area of natural sciences (chemistry, biology) or biotechnical sciences, or biomedicine and healthcare. Completed and passed courses from 1 st year of the study.	
Learning Outcomes at the Programme Level Contributed by the Course	
BIOTECH-1; BIOTECH-2; BIOTECH-4; MEDBIOT-1	
Learning Outcomes at the Course Level	
After completing the course, the student will be able to:	
<ol style="list-style-type: none"> 1. Critically evaluate the scope and role of medical biotechnology in healthcare 2. Relate the molecular basis in the development of disease with molecular and genetic markers 3. Evaluate the role of biotechnological methods and tools in the development of new therapeutic and diagnostic approaches 	
Course Content	
Lectures and Seminars: Introduction to medical biotechnology. Molecular basis of diseases. Molecular and genetic markers. Application of transgenic animals. Drug transfer systems. Gene therapy. Pharmacogenomics. Biochips and tissue chips. Production of monoclonal antibodies. Gene therapies. Stem cell technology. Social acceptability of medical biotechnology.	
Teaching Methods	
Lectures; seminars; laboratory exercises	
Students' Obligations	
Attendance at all forms of classes is mandatory and the students are obligated to attend all knowledge tests. The students may be absent from 30% (full-time students) and 50% (part-time students) of each of the forms of classes, provided that the absence is justified. An exercise or a seminar which has not been completed must be made up through a midterm exam.	
Monitoring the Activity of the Students (<i>Connecting Learning Outcomes, Teaching Methods, and Grading</i>)	

Class-related activity	ECTS	Learning outcome	Student activity	Evaluation method	Grade points	
					Min.	Max.
Attending classes (lectures and seminars)	0.5	1-3	Attendance at classes	Keeping records	1	5
			Seminar work	Presentation	4	35
Final exam	1.5	1-3	Studying for the final exam	Written exam	35	60
Total	2				50	100

Evaluation of the written part of the final exam

Percentage of correct answers (%)	Grade
>95	60
90.00-94.99	57
85.00-89.99	54
80.00-84.99	51
75.00-79.99	48
70.00-74.99	45
65.00-69.99	40
60.00-64.99	35

Forming the final grade:

The points granted for the final exam are added to the grade points awarded during class attendance. The grading process is conducted by absolute distribution, i.e. based on total achievements, and compared to the numerical system in the following manner:

A – Excellent (5): 90-100 grade points; B – Very Good (4): 80-89.99 grade points; C – Good (3): 65-79.99 grade points; D – sufficient (2): 50-64.99 grade points

Mandatory Literature (available in the library and via other media)

Title	Number of copies in the library	Availability via other media
Pongratz J., M. Keen: Medical Biotechnology, Elsevier Health Sciences; 2009.; eBook ISBN: 9780702050855	-	Yes
Medical Biotechnology (ASM Books) 1 st Edition; (Ed. Glick, B.R., Delovitch T.R., Patten C.L); 2013. ISBN-13: 978-1555817053 ISBN-10: 155581705X		Yes

Additional Literature

Scientific and professional papers related to particular chapters (available online)

Quality Assurance Procedures Designed to Ensure the Acquisition of Outcomes and Competencies

Anonymous, quantitative, standardised student survey on the course and the teacher's work implemented by the Quality improvement office of the Faculty of Medicine Osijek and/or the Faculty of Food Technology Osijek.

Note

E-learning is not included in the class quota, but it is used in teaching and it contains links to various sites and video and audio materials available on websites.