

COURSE OUTLINE

1. GENERAL

SCHOOL	APPLIED BIOLOGY & BIOTECHNOLOGY		
ACADEMIC UNIT	BIOTECHNOLOGY		
LEVEL OF STUDIES	UNDERGRADUATE		
COURSE CODE	3210	SEMESTER	7 th
COURSE TITLE	MICROBIAL BIOTECHNOLOGY		
INDEPENDENT TEACHING ACTIVITIES <i>if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits</i>	WEEKLY TEACHING HOURS	CREDITS	
Lectures and Practical courses	3 h (Theoretical course)	5	
	2 h (Practical training)		
<i>Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).</i>			
COURSE TYPE	Field of Science		
PREREQUISITE COURSES:			
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek (Teaching & Exams)		
IS THE COURSE OFFERED TO ERASMUS STUDENTS	English (Teaching & Exams)		
COURSE WEBSITE (URL)	Under construction		

2. LEARNING OUTCOMES

Learning outcomes

Consult Appendix A

- Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area and Appendices for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning

- Guidelines for writing Learning Outcomes

Upon successful completion of this course the students will acquire new knowledge and specific skills on the following subjects:

- Basic overview of a broad spectrum of Microbial Biotechnology applications, socioeconomical impact.
- Understand the basic genetic of microorganisms and the respective tools for applying microbial genetic engineering.
- Appreciate the significance of -omic technologies in modern microbial biotechnology.
- Usage of microorganisms in Industrial fermentations.
- Knowledge and expertise of the enzyme and microbial technology and the microbial biotransformations related to the production of food-based products and to the applications of white biotechnology.
- Knowledge and methodologies of the microbial and enzyme technology related to the food biotechnology and the industrial biotechnology.

		(13 wks x 2,3 h)
	Total	125 h (5 ECTS)
<p style="text-align: center;">STUDENT PERFORMANCE EVALUATION</p> <p><i>Language of evaluation, methods of evaluation, summative or conclusive, multiple-choice questionnaires, short-answer questions, open-ended questions, problem solving,</i></p>	<p>I) Written final examination (50%) with ranking difficulty based on the issues and subjects presented during theoretical courses. The exams will include:</p> <ul style="list-style-type: none"> - Questions of multiple choice. - Questions of theoretical knowledge. - Theoretical problems to be resolved. <p>II) Laboratory exercises/ practical courses (30%). Students individually or in groups will provide a written report before the beginning of the next exercise. The grade of lab courses will be based on the writing reports, attendance, and class participation.</p> <p>III) Group and small autonomous assignments (20%).</p>	

5. Recommended Literature

1. **"BROCK Biology of Microorganisms"**, Authors: Michael T. Madigan, John M. Martinko, Kelly S. Bender, Daniel H. Buckley, David A. Stahl, 2018.
 2. **"Microbiology and Microbial Technology"**, Author: George Aggelis, Editions "Stamoulis SA", Athens 2007.
- Relevant Scientific Journals:**
 Enzyme and Microbial Technology, Bioresource Technology, Journal of Applied Microbiology, Applied Microbiology and biotechnology, Applied and Environmental Microbiology, Microbial Biotechnology