Course ID:HTH405	**Course name: BIOTECHNOLOGY IN WASTE DECOMPOSITION**		
Cycle: FIRST	**Year: FOURTH**	**Semester: VII**	**ECTS credits: 3**
Course status: ELECTIVE		**Total course hours: 45** Lectures: 30 Laboratory: 15	
Teaching participants:	**Teachers and associates with expertise in the field of Biotechnology**		
Prerequisite for enrollment:	-		
Course aims:	Introducing students to the application of biotechnology in environmental protection and the basic principles and techniques of biotechnological waste decomposition		
Thematic course units:	The role and importance of biotechnology in environmental protection Basic principles of biogeochemical processes Biotechnological processes applied in environmental protection Waste treatment procedures Preliminary, primary, secondary and tertiary waste treatment Biological removal of ingredients with carbon, nitrogen, phosphorus and sulfur Removal of microcontamination Bioaugmentation method Biological devices New methods of environmental pollution monitoring Biotransformation and waste management after treatment		
Learning outcomes:	Knowledge: After the course the student will be able to understand microbial growth kinetics, diversity in biological waste treatment, bioreactor type selection; Acquire knowledge related to biochemical environments: aerobic, anaerobic, anoxic Skills: Creating the design of the biotechnological process for waste decomposition Competences: Use of biotechnology in sustainable development and suggest examples of the application of biotechnical techniques in waste decomposition		
Teaching methodology:	Auditory lectures; Laboratory exercise		

Assessment methods and grading system[1]:

Grading criteria		
Criteria	Maximal score	Required score
1. Class attendance	5	3
2. Class activities	10	5
3. Midterms	45	25
4. Final exam	40	22
Total	100	55

Scores and grading		
Score	Grade (B&H)	Grade (ECTS)
< 55	5	F, FX
55–64	6	E
65–74	7	D
75–84	8	C
85–94	9	B
95–100	10	A

Literature[2]:

Supplementary literature:

1. William Bains, (2000). Biotechology from A to Z, UK
2. M. Dutour, Sikirić, V. Tomašić, Biotehnologija u zaštiti okoliša, Zagreb
3. Markert, B.A., Breure, A.M., Zechmeister, H.G., (2003). Bioindicators & Biomonitors: Principles, Concepts, and Applications, El Sevier, Sci.Ltd., UK. Zhang, C., (2007). Fundamentals of environmental sampling and analysis, John Wiley & Sons, nc

[1] The grading structure for each subject is determined by the Council of the organizational unit before the beginning of the academic year in which the subject is taught as per Article 64, paragraph 6 of the Law on Higher Education of Sarajevo Canton

[2] The Senate of the higher education institution, as an institution, or the Council of the organizational unit of the higher education institution, as a public institution, determines by a special decision, which is published on its website before the beginning of the academic year obligatory, mandatory and recommended textbooks and manuals, as well as other recommended literature based on which exams are prepared and taken as per Article 56, paragraph 3 of the Law on Higher Education of the Sarajevo Canton