Course ID: HODTH24	**Course name: SELECTED TOPICS IN BIOTECHNOLOGY**		
Cycle: THIRD	**Year: FIRST**	**Semester: II**	**ECTS credits: 10**
Course status: ELECTIVE		**Total course hours: 60** Lectures: 30 Laboratory: 30	
Teaching participants:	**Teachers and associates with expertise in the field to which the subject belongs**		
Prerequisite for enrollment:	Biotechnology		
Course aims:	The aim of this course is to acquaint students with the latest advances in engineering, biological, medical and agricultural aspects of biotechnology.		
Thematic course units:	Application of biotechnology in various industries: food, agriculture, pharmacy, chemical industry, environment, bioproducts, textiles, medicine Renewable energy sources Biofuels Agrobiotechnology Environmental biotechnology Bioremediation Food technology Biotechnology in medicine and pharmacy Bioethics and biosecurity		
Learning outcomes:	Knowledge: After the course the student will be able to: explain the scope, concepts and terminology of biotechnology ; research and explain current events and advances in biotechnology; acquire knowledge related to selected trends in biotechnology; understands the development, advantages and disadvantages of using new technologies in selected areas of biotechnology; apply knowledge from selected areas of industrial biotechnology as one of the most promising new approaches to pollution prevention, resource conservation and cost reduction; understands the concept of biotechnology that includes working with nature to increase and optimize existing biochemical pathways that can be used in production. Skills: Students will gain an understanding of gene technology, microbial biotechnology, plant biotechnology, using biotechnology in environment, food and agriculture biotechnology. Also, student will be able practically apply acquired knowledge from the selected topics of biotechnology. Competences: This course is designed to provide students fundamental theoreticaland and practical concepts that are core to all aspects of biotechnology within a framework of real-world applications. Students		

<table>
<tr><td></td><td>will adopt the major purposes of selected biotechnology topics.</td></tr>
<tr><td>Teaching methodology:</td><td>Auditory lectures, Laboratory exercises</td></tr>
<tr><td>Assessment methods and grading system[1]:</td><td>
<table>
<tr><td colspan="3">Grading criteria</td></tr>
<tr><td>Criteria</td><td>Maximal score</td><td>Required score</td></tr>
<tr><td>1. Class attendance</td><td>5</td><td>3</td></tr>
<tr><td>2. Class activities</td><td>10</td><td>5</td></tr>
<tr><td>3. Midterms</td><td>45</td><td>25</td></tr>
<tr><td>4. Final exam</td><td>40</td><td>22</td></tr>
<tr><td>Total</td><td>100</td><td>55</td></tr>
<tr><td colspan="3">Scores and grading</td></tr>
<tr><td>Score</td><td>Grade (B&H)</td><td>Grade (ECTS)</td></tr>
<tr><td>< 55</td><td>5</td><td>F, FX</td></tr>
<tr><td>55–64</td><td>6</td><td>E</td></tr>
<tr><td>65–74</td><td>7</td><td>D</td></tr>
<tr><td>75–84</td><td>8</td><td>C</td></tr>
<tr><td>85–94</td><td>9</td><td>B</td></tr>
<tr><td>95–100</td><td>10</td><td>A</td></tr>
</table>
</td></tr>
<tr><td>Literature[2]:</td><td>Supplementary literature:
1. Colin Ratledge,Bjorn Kristiansen (2006) Basic Biotechnology (3rd Edition) UK, Cambridge
2. Daan J.Crommelin; Robert d. Sindelar; Bernd Meibohm (2007) Pharmaceutical biotechnology, fundamentals and applications, Informa healthcare, New York
3. Lawrence K. Wang, Volodymyr Ivanov, Joo-Hwa Tay, (2010), Environmental Biotechnology, Vol.10, NY, USA
4. Byong H. Lee, (2015) Fundamentals of Food Biotechnology, 2nd Edition, Wiley-Blackwell
5. Anjali Priyadarshini, Prerna Pandey (2018) Biocatalysis and Agricultural Biotechnology: Fundamentals, Advances, and Practices for a Greener Future 1st Edition, Apple Academic Press
6. David M Mousdale (2008) Biofuels: Biotechnology, Chemistry, and Sustainable Development 1st Edition, CRC Press</td></tr>
</table>

[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