Course ID: HODFH28	**Course name: DEVELOPMENT AND APPLICATION OF CHEMICAL SENSORS**		
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:	-		
Course aims:	Adopting the principles of development of new sensors and biosensors in relation to their possible application.		
Thematic course units:	Development of chemical sensors and biosensors. Chemical sensors - alternative analytical chemistry. Recognition elements in sensors. Receptors and transducers. Immobilization procedures. Electrochemical sensors. Immunosensors. Optical sensors. Thermal sensors. Mass sensors. Nano sensors and integrated devices. Application in medicine; diagnostics and control, environmental protection and industry.		
Assessment methods and grading system[1]:	Grading criteria		
	Criteria	Maximal score	Required score
	1. Tests	2 × 20	22

[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

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<tr><td>2. Seminars</td><td>1 × 40</td><td>22</td></tr>
<tr><td>3. Final exam</td><td>20</td><td>11</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 (BiH)</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>
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<tr><td>Literature[2]:</td><td>Supplementary literature:
1. Emir Turkušić, Uvod u hemijske senzore i biosenzore, PMF Sarajevo, 2012.
2. Ivan Švancara, Kurt Kalcher, AlainWalcarius, Karel Vytras, Electroanalysis With Carbon Paste Electrodes, CRC, 2012.
3. Peter Gründler, Chemical Sensors,Springer-Verlag Berlin Heidelberg, 2007.
4. Ursula Spichiger-Keller, Chemical sensorsand biosensors for medical and biological applications, Wiley-VCH, 1998.
5. Pelagia-Irene (Perena) Gouma, Nanomaterials for Chemical Sensors and Biotechnology, Pan Stanford Publishing Pte. Ltd., 2010.</td></tr>
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[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