Course ID: HNM303	**Course name: MULTIMEDIA IN EXPERIMENTAL CHEMISTRY**		
Cycle: FIRST	**Year: THIRD**	**Semester: V**	**ECTS credits: 2**
Course status: ELECTIVE		**Total course hours: 30** Lectures: 15 Laboratory: 15	
Teaching participants:	**Teachers and associates with expertise in the field to which the subject belongs**		
Prerequisite for enrollment:	-		
Course aims:	Enabling students for use of multimedia resources in realization of the experimental part of chemistry instruction		
Thematic course units:	1. Material basis of teaching. Resources for teaching. 2. Multimedia in teaching process 3. Teaching strategies that integrate ICT in chemistry teaching 4. The role of multimedia in teaching and learning chemistry 5. Animations and simulations in chemistry teaching 6. Mayer's theory of multimedia learning 7. Multimedia in teaching - three levels of representation 8. You Tube in chemistry teaching 9. Advantages and disadvantages of using the Internet in teaching 10. Educational softwares and DVD materials. Evaluation of multimedia material. 11. Application of laboratory sensors and ICT in chemistry teaching 12. Multimedia in displaying chemistry experiments		
Learning outcomes:	Knowledge: • Select and apply adequate multimedia resources in chemistry teaching process Skills: • Assess the advantages and disadvantages of using multimedia tools in chemistry teaching Competences: • Apply appropriate criteria for evaluating available animations and simulations for chemistry teaching; • Apply laboratory sensors in experimental work and analyze the data using appropriate devices and		

<table>
<tr><td></td><td>applications.
• Produce multimedia material based on chemistry experiment(s)</td></tr>
<tr><td>Teaching methodology:</td><td>Oral presentation
Discussion
Research
Practical exercises</td></tr>
<tr><td>Assessment methods and grading system[1]:</td><td>
<table>
<tr><th colspan="3">Grading criteria</th></tr>
<tr><th>Criteria</th><th>Maximal score</th><th>Required score</th></tr>
<tr><td>1. Class attendance</td><td>5</td><td>3</td></tr>
<tr><td>2. Class activities</td><td>15</td><td>8</td></tr>
<tr><td>3. Midterm</td><td>25</td><td>14</td></tr>
<tr><td>4. Seminar</td><td>15</td><td>8</td></tr>
<tr><td>5. Final exam</td><td>40</td><td>22</td></tr>
<tr><td>Total</td><td>100</td><td>55</td></tr>
<tr><th colspan="3">Scores and grading</th></tr>
<tr><th>Score</th><th>Grade (B&H)</th><th>Grade (ECTS)</th></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>Mandatory literature:

1. Perina I. (2004). Kemijski pokusi u optičkoj projekciji, Zagreb: Školska knjiga.

Supplementary literature:

1. Mishra S., Sharma R.C.(2005) Interactive Multimedia in Education and Training, Hershey (USA): IDEA Group Publishing
2. Multimedija u nastavi kemije - DVD Kemija 1 i Kemija 2, Izbor video-filmova na DVD-u Kemija 1 i 2, Zagreb: PROFIL Multimedija
3. Multimedia Demonstrations by Dr. Karl Harrison,</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

	Department of Chemistry, University of Oxford http://www.chem.ox.ac.uk/it/chemfun.html