Subject code: GIS-235-3	**Subject name:** Geovisualization		
Study cycle: I	**Year: II**	**Semester: III**	**ECTS credits:** 6
Status: Elective		**Contact hours:** 60 Lectures: 30 Practical courses: 30	
Assigned professors and assistants:	Lecturers and assistants selected for the field to which the course belongs		
Prerequisits:	/		
Subject objectives:	– To familiarize students with the basics of geovisualization and 3D geovisualization of cartographic data. – To provide knowledge about projections, coordinate systems, transformations, vectorization, and cartographic geovisualization. – To teach methods for creating thematic maps, such as choropleth, cartogram, dasymetric, and narrative maps.		
Teaching units:	1. Geovisualization – Concept, techniques, and application possibilities. 2. Geodata – Projections, coordinate systems, and transformations. 3. Digital cartography – Hardware and software. 4. Vectorization of geodata. 5. Cartographic generalization. 6. Advantages and paradigms of visual data. 7. Classification techniques of geovisualization. 8. First test. 9. Methods for creating choropleth maps and determining class boundaries. 10. Methods for creating cartograms and cartodiagrams. 11. Methods for creating dasymetric maps. 12. Methods for creating topographic maps. 13. Methods for creating narrative maps. 14. 3D geovisualization of thematic cartographic contents. 15. Analysis of seminar papers.		
Learning outcomes:	**Knowledge:** The student explains the concept of geovisualization. The student emphasizes methods for creating cartographic contents using geovisualization. **Skills:** The student demonstrates the process of geodata vectorization.		

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<tr><td></td><td>The student graphically presents thematic contents of choropleth, dasymetric, and narrative maps.
Competencies:
The student designs 2D and 3D thematic maps using geovisualization.</td></tr>
<tr><td>Teaching methods:</td><td>Theoretical lectures and practical courses using various multimedia tools and application software.</td></tr>
<tr><td>Knowledge testing methods with grading structure[1]:</td><td>
<table>
<tr><th></th><th>Maximum Points</th><th>Minimum points</th></tr>
<tr><td>Attendance</td><td>5</td><td>3</td></tr>
<tr><td>Participation on lectures</td><td>5</td><td>3</td></tr>
<tr><td>Tests</td><td>40</td><td>22</td></tr>
<tr><td>Seminar paper</td><td>10</td><td>6</td></tr>
<tr><td>Final exam</td><td>40</td><td>21</td></tr>
<tr><td>TOTAL</td><td></td><td></td></tr>
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Assessment:
<table>
<tr><th>Grade</th><th>ECTS grade</th><th>Points scale</th></tr>
<tr><td>10</td><td>(A) excellent</td><td>95 - 100</td></tr>
<tr><td>9</td><td>(B) very good</td><td>85 - 94</td></tr>
<tr><td>8</td><td>(C) good</td><td>75 - 84</td></tr>
<tr><td>7</td><td>(D) satisfactory</td><td>66 - 74</td></tr>
<tr><td>6</td><td>(E) sufficient</td><td>55 - 64</td></tr>
<tr><td>5</td><td>(F, FX) insufficient</td><td>55</td></tr>
</table>
</td></tr>
<tr><td>Literature[2]:</td><td>Mandatory:
– MacEachren, A. M. (2004). "How Maps Work: Representation, Visualization, and Design". Guilford Press.
– Slocum, T. A. et al. (2009). "Thematic Cartography and Geovisualization". Pearson Prentice Hall.
Recommended:
– Buckley, A. (2013). "The Principles of Geovisualization". Esri Press.
– Peterson, M. P. (2014). "Mapping in the Cloud". Guilford Press.
– Brewer, C. A. (2015). "Designing Better Maps: A Guide</td></tr>
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[1] The structure of points and point criteria 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 in accordance with 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 a council of the organizational unit of the higher education institution as a public institution determines mandatory and recommended textbooks and manuals, as well as other recommended literature on the basis of which exams are prepared by a special act which is required to be published on its website before the beginning of the academic year in accordance with Article 56, paragraph 3 of the Law on Higher Education of the Sarajevo Canton.

	for GIS Users". Esri Press.