



Subject code: GIS-227-2	Subject name: Collection, Integration and Geovisualization of Geospatial Data		
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		
Prerequisites:	/		
Subject objectives:	<p>The main subject objectives are:</p> <ul style="list-style-type: none"> – introducing and acquiring students' knowledge of the fundamental principles of developing geospatial databases – introducing and acquiring students' knowledge about the basics of designing and applying geospatial data in the field of spatial planning. 		
Teaching units:	<ol style="list-style-type: none"> 1. Geospatial data - term and concept 2. Systems for collecting, integrating, and geovisualizing geospatial data 3. Designing models of geospatial databases 4. Implementing models and developing applications for geospatial databases 5. Conceptual models of geographic phenomena 6. Models of geodata and geographic primitives 7. Representation of geographic primitives using vector and raster approach 8. The first test 9. Modeling geodata and spatial analysis 10. Creating geodatabases 11. Structuring and organizing geodatabases 12. Managing geodatabases 13. Structure of object-oriented databases 14. Creating sets of digital geodatabases 15. Analysis of seminar papers 		
Learning outcomes:	<p>Knowledge:</p> <ul style="list-style-type: none"> – a student recognizes and describes systems for collecting, integrating, and geovisualizing geospatial data – a student identifies and explains conceptual models of geospatial data; <p>Skills:</p> <ul style="list-style-type: none"> – a student independently organizes geodatabases of 		



	<p>geospatial data</p> <ul style="list-style-type: none"> – a student evaluates the content of geodatabases; <p>Competencies:</p> <ul style="list-style-type: none"> – a student creates and structures geospatial databases – a student conducts geovisualization of geospatial data using relevant application software. 																																										
Teaching methods:	Multimedia presentation and discussion (lecture); individual research work of students, joint analysis, and practical work of students in relevant application software (practical courses).																																										
Knowledge testing methods with grading structure¹:	<table border="1"> <thead> <tr> <th></th> <th><i>Maximum points</i></th> <th><i>Minimum points</i></th> </tr> </thead> <tbody> <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>35</td> <td>19</td> </tr> <tr> <td>Seminar paper</td> <td>20</td> <td>11</td> </tr> <tr> <td>Final exam</td> <td>35</td> <td>19</td> </tr> <tr> <td>TOTAL</td> <td>100</td> <td>55</td> </tr> </tbody> </table> <p>Assessment:</p> <table border="1"> <thead> <tr> <th><i>Grade</i></th> <th><i>ECTS grade</i></th> <th><i>Points scale</i></th> </tr> </thead> <tbody> <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> </tbody> </table>		<i>Maximum points</i>	<i>Minimum points</i>	Attendance	5	3	Participation on lectures	5	3	Tests	35	19	Seminar paper	20	11	Final exam	35	19	TOTAL	100	55	<i>Grade</i>	<i>ECTS grade</i>	<i>Points scale</i>	10	(A) excellent	95 - 100	9	(B) very good	85 - 94	8	(C) good	75 - 84	7	(D) satisfactory	66 - 74	6	(E) sufficient	55 - 64	5	(F, FX) insufficient	<55
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Literature²:	<p>Mandatory:</p> <ol style="list-style-type: none"> 1. Burrough, P. A., McDonnel, R. A., 2006. Principi geoinformacionih Sistema–drugo izdanje. Oxford University Press. Prevod sa engleskog jezika. 2. Đug S., Drešković, N., Odžak, S., 2015. Daljinska istraživanja–principi i primjena u prirodnim naukama. Univerzitetski udžbenik. Univerzitet u Sarajevu. Sarajevo. 3. Arctur, D. and Zeiler, M., 2004. Designing 																																										

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.



UNIVERSITY OF SARAJEVO – FACULTY OF SCIENCE
SUBJECT DESCRIPTION

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Geodatabases: case studies in GIS data modeling. ESRI, Inc.

Recommended:

1. Hamid, A.M., Sameer, M.K. and Mageed, N.N., 2020. Geodatabase production of digital land use map using remote sensing and GIS techniques. In AIP Conference Proceedings (Vol. 2213, No. 1). AIP Publishing.