



Subject code: TZŽS/109	Subject name: Remote Sensing		
Study cycle: III	Year: I	Semester: I	ECTS credits: 5
Status: Optional	Contact hours: 55 Lectures: 45 Research project/seminar: 10		
Assigned professors and assistants:	Teachers and associates who are selected for the teaching area to which the subject belongs		
Prerequisites:	For successful mastering, the teaching material requires a previously passed GIS module.		
Subject objectives:	<ul style="list-style-type: none">– introducing students to the principles and methods of remote sensing and its application in research in the field of environmental protection and tourism potential.– introducing students to application software and concrete work with optional software tools for component and complex research in the field of environmental protection– introducing students to application software and concrete work with optional software tools in research and valorization of tourism potentials.		
Teaching units:	<ol style="list-style-type: none">1. Basics of remote sensing - concept, definition, subject, tasks and objectives of the study.2. Historical-geographical continuity and the current state of geospatial research3. Technological structure of remote sensing in the field of radiation sources.4. Satellite systems for Earth observation and their classification.5. Instruments for remote sensing and the influence of the atmosphere on diffraction and interference.6. Classification of satellite and aerial imagery by application of given criteria.7. Spectral resolution of satellite and aerial images.8. Identification and interpretation of data for remote research.9. Data integration for remote sensing.10. Remote detection application software.11. Uncontrolled and controlled classification of satellite imagery.12. Spectral signature and advanced controlled satellite image		



	<p>classification.</p> <p>13. Software models for structural improvement of satellite and aerial image content.</p> <p>14. Geocological spatial analyzes using certain software modules according to the types of natural resources.</p> <p>15. Analysis and valorization of tourist potentials by application certain software modules according to types and their spatial coverage.</p>																					
Learning outcomes:	–																					
Teaching methods:	Multimedia presentation and discussion (lectures); practical work, educational material analysis and discussion (Research project).																					
Knowledge testing methods with grading structure¹:	<p>Knowledge assessment / criterion:</p> <p>1. Oral discourse: max 25 - min 14 points</p> <p>2. Practical work: max 25 - min 14 points</p> <p>3. Independent research work: max 50 - min 27 points</p> <p>Total 100 points, condition for passing: 55 points</p> <p>Assessment:</p> <table border="1"> <thead> <tr> <th>Grade</th> <th>ECTS grade</th> <th>Points scale</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>	Grade	ECTS grade	Points scale	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> <p>1. Đug, S., Drešković, N., Odžak, S. (2015): Daljinska istraživanja – principi i primjena u prirodnim naukama. Univerzitetski udžbenik. Izdavač: Univerzitet u Sarajevu, Prirodno-matematički fakultet Sarajevo. ISBN 978-9958-592-62-1, COBISS. BH - ID 22089478.</p> <p>2. Horning, N., Robinson, J.A., Sterling, E.J., Turner, W., & Spector, S. (2010): Remote Sensing for Ecology and Conservation. A Handbook of Techniques. Oxford University Press Inc., New York.</p>																					

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.



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3. Verbyla, D. (2000.): Satellite Remote Sensing of Natural Resources. Lewis publisher, New York.
4. Franklin, J., Miller, J.A. (2009): Mapping Species Distribution. Spatial Inference and Prediction. Cambridge University Press.