



UNIVERSITY OF SARAJEVO – FACULTY OF SCIENCE
SUBJECT DESCRIPTION

Form SP2

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Subject code: GE-317-4	Subject name: Natural hazards and protection		
Study cycle: I	Year: III	Semester: V	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:	Enabling students to interpret natural hazards, understand hazardous processes and their impact on the safety and development of the environment. Enabling students for independent interpretation of preventive protection and remedial measures.		
Teaching units:	1. Introduction to natural processes and hazards 2. Processes that shape the Earth, affect people and the environment 3. Vulnerability and exposure to hazards 4. Natural hazard risk assessment 5. Climate change, land use changes and natural hazards 6. Model of forecasting and early warning against natural hazards 7. The genesis of hazard 8. First test 9. Categories of natural hazards 10. Geophysical hazards (earthquakes, avalanches, volcanic eruptions, ground subsidence, landslides, liquefaction and solifluction) 11. Hydrological hazards (floods, tsunamis, droughts) 12. Meteorological hazards (winds, droughts, avalanches, fires, intense precipitation, storms, tropical storms, extreme temperatures, fog, tropical cyclone, water and aeolian erosion, climate change) 13. Epidemics and pandemics, animal and plant invasions 14. Accidents from space (solar radiation, meteorite impacts) 15. Database		
Learning outcomes:	Knowledge: • student explains the genesis of natural hazards • student determines the causes and consequences of natural hazards.		



	Skills: • student assesses the risk of natural hazards • student explains preventive protection and remedial measures Competencies: • student independently recognizes and analyzes natural hazards • student independently presents information and data in written and non-verbal form																																																
Teaching methods:	Lectures are theoretical and practical based on interpretation, recognition, analysis of natural hazards (causes, consequences and protection measures).																																																
Knowledge testing methods with grading structure¹:	<table><tr><td></td><td colspan="2"><i>Points</i></td></tr><tr><td>Attendance</td><td>5</td><td>3</td></tr><tr><td>Participation on lectures</td><td>5</td><td>2</td></tr><tr><td>Tests</td><td>40</td><td>22</td></tr><tr><td>Seminar paper</td><td>10</td><td>5</td></tr><tr><td>Final exam</td><td>40</td><td>22</td></tr><tr><td colspan="3"> </td></tr><tr><td>TOTAL</td><td>100</td><td>55</td></tr></table> Assessment: <table><tr><td><i>Grade</i></td><td><i>ECTS grade</i></td><td><i>Points scale</i></td></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 colspan="3"> </td></tr><tr><td>5</td><td>(F, FX) insufficient</td><td>55</td></tr></table>		<i>Points</i>		Attendance	5	3	Participation on lectures	5	2	Tests	40	22	Seminar paper	10	5	Final exam	40	22				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:	Mandatory: 1. John C. Pine. (2009): Natural Hazards Analysis Reducing the Impact of Disasters. http://www.taylorandfrancis.com 2. Spahić, M. (1999): Osnovi geoekologije (geografske osnove životne sredine), Harfo-graf Tuzla 3. Hrvatović, H. (2014): Identifikacija i procjena geoloških hazarda. http://www.msb.gov.ba/dokumenti/AB38725.pdf Recommended:																																																

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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1. Nakić, Z. (2010): Skripta Geologija okoliša, Zagreb.
2. Operta, M. (2004): Katalog „Meteoriti“ Zemaljski muzej BiH, XX Internacionalni festival, „Sarajevska zima 2004“.