



UNIVERSITY OF SARAJEVO – FACULTY OF SCIENCE
SUBJECT DESCRIPTION

Form SP2

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Subject code: FG-311.7-4		Subject name: GEOCHEMISTRY	
Ciklus: 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:		Educating students to independently interpret the geochemical classification of elements, geochemical cycles and geochemical composition of the Earth's crust, hydrosphere, atmosphere and biosphere. Teaching students to independently interpret geochemical research methods, data and use a geochemical map.	
Teaching units:		1.Introduction to geochemistry 2.Historical development of geochemistry 3.Basic concept of the Earth and the Cosmos 4.Fundamentals of thermodynamics 5.Structure and geochemical composition of the Earth (Earth's crust, mantle and core) 6.Geochemical classification of elements and geochemical 7.First test 8.Methods of geochemical research 9.Interpretation of data and geochemical maps 10.Geochemistry of magmatic processes 11.Sedimentation as a geochemical process 12.Geochemistry of the hydrosphere - nature of hydrosphere, the composition of marine and fresh water, balance of dissolved materials in seawater and ocean evolution 13.Geochemistry of the atmosphere - evolution and composition of the atmosphere, the enrichment of the atmosphere and atmospheric losses in the course of geological time 14.Geochemistry of the biosphere – nature of biosphere, composition and biogenic deposits 15.Geochemistry of metamorphic processes	



Learning outcomes:	Knowledge: The student will be able to interpret geochemical classification of elements and geochemical cycles, explain migration and distribution of elements. Skills: The student will be able to demonstrate the methods of geochemical research and interpret the results of geochemical research Competencies: The student will be able to independently interpret the distribution of chemical elements in the Earth's crust, mantle and core, atmosphere, hydrosphere and biosphere and the laws that determine these distributions, the student will be able to independently use geochemical maps.																								
Teaching methods:	The lectures are theoretical and practical and represent a complete set of geochemical achievements from the introductory chapters, through knowledge of the geochemistry of the elements, especially their geochemical cycles to geochemical research methods.																								
Knowledge testing methods with grading structure ¹:	Knowledge assessment - criteria: Lecture and exercise attendance: maximum 10 - minimum 6 points Activity in class: maximum 10 - minimum 6 points Seminar paper: maximum 10 - minimum 5 points Test: maximum 40 - minimum 22 points Final exam: maximum 40 - minimum 22 points Total 100 points, passing requirement: 55 points minimum. Assessment: <table><tr><th><i>Grade</i></th><th><i>ECTS grade</i></th><th><i>Points scale</i></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></td><td></td><td><</td></tr><tr><td>5</td><td>(F, FX) insufficient</td><td>55</td></tr></table>	<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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		<																							
5	(F, FX) insufficient	55																							

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



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Literature²:

MANDATORY:

Kubat, I. (1997): Geohemija, Rudarsko-geološko građevinski fakultet, Udžbenik Univerziteta u Tuzli.

Prohić, E. (1998): Geohemija. Targa, Zagreb.

Wedepohl, K.H. (1969): Handbook of Geochemistry Vol.I.Springer. Verlag. Berlin.

RECOMMENDED:

Operta, M. (2013): Opća geologija, Udžbenik Prirodno-matematičkog fakulteta u Sarajevu

Operta, M. (2004): Katalog „Meteoriti“ Zemaljski muzej BiH, XX Internacionalni festival, „Sarajevska zima 2004“.

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 mandatory and recommended textbooks and manuals, as well as other recommended literature on the basis of which exams are prepared by a special decision which must 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