

4. 5. DEPARTMENT OF GEOLOGY

<http://www.pmf.unizg.hr/geol>

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ORGANIZATION

- Institute of Geology and Paleontology, Horvatovac 102a
tel. 4606080 - Head: Prof. dr. sc. Mladen Juračić
- Institute of Mineralogy and Petrology, Horvatovac 95
tel.: 4605960 - Head: Prof. dr. sc. Darko Tibljaš

STAFF AND STUDENTS

22 professors

15 research assistants

11 technical assistants

312 students

SCIENTIFIC WORK

Scientific work at the Department of Geology covers all disciplines in geology and mineralogy – sedimentology, stratigraphy, geology of sedimentary basins, environmental geology, geology and protection of karst, subsurface geology, evolution, paleontology and biostratigraphy, geochemistry, mineralogy and crystallography, petrology of igneous and metamorphic rocks, petrology of sediments, economic deposits, marine geology, recent sedimentation etc.

UNIVERSITY STUDY PROGRAMS

- Undergraduate study of Geology, duration of 3 years
- Undergraduate study of Environmental Sciences, duration of 3 years, in cooperation with Department of Biology and Department of Geography
- Graduate study of Geology (Geology and Paleontology), duration of 2 years
- Graduate study of Geology (Mineralogy and Petrology), duration of 2 years
- Graduate study of Environmental Geology, duration of 2 years
- Graduate study of Environmental Sciences, duration of 2 years, in cooperation with Department of Biology and Department of Geography

UNIVERSITY UNDERGRADUATE STUDIES

University Undergraduate study – GEOLOGY

Year 1						
Semester 1			Winter semester		Summer semester	
Lecturers	ISVU code	Compulsory Courses	L+E+S	ECTS	L+E+S	ECTS
Z. Franušić	36211	Mathematics I	2+1+0	4		
Ž. Soldin	36206	Chemistry I	2+2+0	5		
D. Tibljaš	36199	General mineralogy	3+3+0	7		
B. Cvetko Tešović	36200	Physical geology	3+3+0	7		
J. Sremac V. Čosović	36201	General palaeontology	3+3+0	7		
K. Fučkar Reichel J. Vulić	38079	Physical training and health education 1	0+2+0			
Semester 2			L+E+S	ECTS	L+E+S	ECTS
D. Ilišević	36212	Mathematics II			2+1+0	4
Ž. Soldin	36207	Chemistry II			2+2+0	5
D. Paar	36208	Physics			3+2+0	6
V. Bermanec	36213	System of mineralogy			3+3+0	7
M. Špoljar	36209	Fundamentals of biology			2+1+0	3
	36210	Field course in geology I (60 hours/year)				5
K. Fučkar Reichel J. Vulić	38080	Physical training and health education 2			0+2+0	
SUMMARY:			25	30	21	30

L = lectures, E = exercises, S = seminars.

Year 2						
Semester 3			Winter semester		Summer semester	
Lecturers	ISVU code	Compulsory Courses	L+E+S	ECTS	L+E+S	ECTS
D. Bucković	41025	Historical geology I	3+2+0	6		
N. Tomašić	41026	Mineral optics	2+4+0	5		
Đ. Pezelj	90435	Invertebrate paleontology	2+1+0	4		
Z. Bajraktarević	41035	Micropalaeontology I	1+2+0	3		
S. Markušić	41028	Geophysics	2+1+0	5		
G. Medunić D. Tibljaš	41029	Principles of elemental and phase analysis	2+2+0	5		
	41030	Seminar I	0+2+0	2		
K. Fučkar Reichel J. Vulić	40849	Physical training and health education 3*	0+2+0			
Semester 4			L+E+S	ECTS	L+E+S	ECTS
D. Bucković	41031	Historical geology II			2+2+0	4
D. Balen	41032	Igneous and metamorphic petrology			3+3+0	7
M. Kovačić	41033	Sedimentary petrology			3+3+0	7
Z. Bajraktarević	90436	Vertebrate paleontology			2+1+0	3
	41036	Seminar II			0+1+0	2
	41037	Field course in geology II (90 hours/year)				7
K. Fučkar Reichel J. Vulić	40850	Physical training and health education 4*			0+2+0	
SUMMARY:			26	30	20	30

Year 3						
Semester 5			Winter semester		Summer semester	
Lecturers	ISVU code	Compulsory Courses	L+E+S	ECTS	L+E+S	ECTS
V. Tomić	63318	Geological mapping I	1+6+0	6		
B. Tomljenović	63320	Structure geology and tectonics	2+2+0	5		
M Juračić S. Strmić Palinkaš	63321	Software in geology	2+2+0	5		
G. Medunić	41041	Geochemistry	2+1+0	4		
A. Bačani	41042	Hydrogeology	2+1+0	4		
		<i>Elective course</i>		4		
	63322	Field course in geology IIIA (30 hours/year)		2		
Semester 6			P+V+S	ECTS	P+V+S	ECTS
J. Halamić	63319	Geological mapping II			1+2+0	3
L. Palinkaš	41043	Geology of mineral deposits			3+1+0	5
D. Pollak	41044	Engineering geology			2+1+0	4
E. Mrinjek	71835	Analysis and interpretation of facies			3+2+0	5
		<i>Elective course</i>				4
	41046	Seminar III			0+2+0	2
	63323	Field course in geology IIIB (105 hours/ year)				7
SUMMARY:			21[#]	30	17[#]	30
<i>Elective courses</i>						
V. Čosović	63324	Methods in palaeontology	1+2+0	4		
G. Kniewald V. Bermanec	63325	Gemmology	2+1+0	4		
M. Juračić	63326	History of geology	2+0+0	4		
M. Juračić	63327	Marine geology	2+2+0	4		
D. Balen	63328	Rock microstructure			0+3+0	4
A. Mezga	63329	Quaternary geology			2+0+0	4
N. Tomašić	63330	Universal stage methods			1+2+0	4

[#]Without elective courses

UNIVERSITY GRADUATE STUDIES

University Graduate Study – GEOLOGY

University Graduate Study – ENVIRONMENTAL GEOLOGY

Year 1						
Semester 1			Winter semester		Summer semester	
Lecturers	ISVU code	Compulsory Courses	L+E+S	ECTS	L+E+S	ECTS
E. Mrinjek	71938	Plate tectonics	2+0+0	3		
J. Sremac J. Halamić	71939	Geology of Croatia	2+0+0	2		
L. Palinkaš S. Strmić Palinkaš	44008	Quantitative and isotope geochemistry	3+2+0	7		
		Compulsory elective course		6		
		<i>Elective course</i>		5		
		<i>Elective course</i>		5		
	44011	Seminar IV	0+2+0	2		
Semester 2			L+E+S	ECTS	L+E+S	ECTS
G. Medunić	44013	Geostatistics			2+1+0	4
		Compulsory elective course				6
		<i>Elective course</i>				5
		<i>Elective course</i>				5
		<i>Elective course</i>				5
	81544	Terenska nastava iz geologije IV (75 sati.god.)				5
SUMMARY:			9[#]	30	3[#]	30

L = lectures, E = exercises, S = seminars.

[#]Without elective courses

Year 2						
Semester 3			Winter semester		Summer semester	
Lecturers	ISVU code	Compulsory Courses	L+E+S	ECTS	L+E+S	ECTS
T. Marjanac	44021	Elements of scientific work	2+1+0	5		
		<i>Elective course</i>		5		
		<i>Elective course</i>		5		
	44028	Seminar V	0+3+0	3		
	44031	Field project	0+7+0	12		
Semester 4			L+E+S	ECTS	L+E+S	ECTS
		<i>Elective course</i>				5
	44034	Seminar (thesis related)				5
	44037	Thesis				20
SUMMARY:			13[#]	30		30

Compulsory elective courses (Year 1)

Semester 1						
			Winter semester		Summer semester	
Lecturers	ISVU code	Compulsory elective courses	L+E+S	ECTS	L+E+S	ECTS
GEOLOGY AND PALEONTOLOGY						
T. Marjanac	44085	Karst geology	2+1+0	6		
MINERALOGY AND PETROLOGY						
D. Balen	44086	Petrogenesis	2+1+0	6		
ENVIRONMENTAL GEOLOGY						
T. Marjanac	44088	Geohazards	2+1+0	6		

Semester 2						
			Winter semester		Summer semester	
Lecturers	ISVU code	Compulsory elective courses	L+E+S	ECTS	L+E+S	ECTS
GEOLOGY AND PALEONTOLOGY						
V. Čosović	44089	Paleoecology			2+1+0	6
MINERALOGY AND PETROLOGY						
D. Tibljaš F. M. Brückler	44090	Crystallography			1+2+0	6
ENVIRONMENTAL GEOLOGY						
M. Juračić	44087	Environmental geology			2+1+0	6

Elective courses (Year 1 and 2)

Semester 1 or 3						
			Winter semester		Summer semester	
Lecturers	ISVU code	Elective Courses	L+E+S	ECTS	L+E+S	ECTS
GEOLOGY AND PALEONTOLOGY						
V. Čosović	44101	Methods in paleontology	1+2+0	5		
M. Juračić	44099	History of geology	2+0+0	5		
A. Mezga	44091	Paleontological aspects of evolution	2+1+0	5		
M. Juračić	44100	Marine geology	2+2+0	5		
A. Moro	44093	Selected topics in invertebrata paleontology	2+1+0	5		
B. Saftić	44094	Geology of fossil fuels	2+1+0	5		
MINERALOGY AND PETROLOGY						
G. Kniewald V. Bermanec	44098	Gemmology	2+1+0	5		
D. Tibljaš G. Medunić	44125	Phase and elemental analysis	1+2+0	5		
V. Bermanec	71927	Mineral associations	2+1+0	5		
ENVIRONMENTAL GEOLOGY						
S. Kapelj	44117	Hydrogeochemistry and groundwater protection	2+1+0	5		
V. Bermanec	44102	Environmental mineralogy	2+1+0	5		

V. Bermanec	44103	Instrumental methods in environmental analysis	2+1+0	5		
L. Palinkaš	44115	Geological aspects of waste disposals	2+1+0	5		
G. Medunić	44104	Environmental geochemistry	2+1+0	5		
G. Medunić	44105	Environmental law	2+1+0	5		
Semester 2 or 4						
Lecturers	ISVU code	Elective Courses	L+E+S	ECTS	L+E+S	ECTS
GEOLOGY AND PALEONTOLOGY						
Z. Bajraktarević	44108	Selected topics in vertebrata paleontology			2+1+0	5
V. Čosović	44106	Geology and geochemistry of crude oil			2+1+0	5
B. Cvetko Tešović Đ. Pezelj	44107	Micropaleontology II			1+2+0	5
T. Marjanac	71928	Glaciology			3+0+0	5
T. Marjanac	71937	Field course in glaciology			3+0+0	5
T. Marjanac	71940	Remote sensing techniques in geology			2+1+0	5
J. Sremac	44109	Paleobotany			2+1+0	5
P. Miracle	71941	Zooarcheology			2+0+0	5
	44123	Applied geophysics			2+1+0	5
MINERALOGY AND PETROLOGY						
D. Balen	41052	Rock microstructure			0+3+0	5
D. Balen	44110	Microtectonics			1+2+0	5
V. Bermanec	44111	Silicate mineralogy			2+1+0	5
V. Bermanec	44112	Non-silicate mineralogy			2+1+0	5
L. Palinkaš	44113	Interpretation of geochemical data			2+1+0	5
N. Tomašić	41054	Universal stage methods			1+2+0	5
G. Medunić	44114	Geochemistry of sedimentary rocks			2+1+0	5
	44126	Field techniques (mineralogy/petrology)			0+3+0	5
ENVIRONMENTAL GEOLOGY						
S. Strmić Palinkaš	44116	Geochemical methods of environmental investigation			2+1+0	5
D. Tibljaš	44119	Clay mineralogy			1+2+0	5
T. Marjanac	71940	Remote sensing techniques in geology			2+1+0	5
P. Miracle	71941	Zooarcheology			2+0+0	5
M. Ahel	44120	Organic geochemistry of pollutants			2+1+0	5
M. Sraka	44121	Basics of pedology			2+1+0	5
I. Jüttner J. Nuić	44118	Introduction to geotechnology			2+1+0	5
M. Romić	44122	Biogeochemistry			2+1+0	5