## **CURRICULUM**

Program: APPLIED GEOPHYSICS (in English Language)

Level: Master Degree (M.Sc.)

Domain of M.Sc. studies: Geological Engineering Duration of studies: 4 semesters (120 credits)

Vegr I - Semester 1

Item		Type <sup>1</sup>	Code	Hours/week and number of credits			Form of graduation
		-5,50		Course	Lab	Credits	(exam/verification)
COMI	PULSORY COURSES		·				
1	Academic Ethics and Deontology	C	AGPH-01	1	-	3	Verification
2	Seismic Exploration for Hydrocarbons (I)	S	AGPH-02	1	1	5	Exam
3	Unconventional Hydrocarbons Resources	S	AGPH-03	1	2	5	Exam
4	Mining Geophysics	S	AGPH-04	1	1	4	Exam
5	Borehole Geophysics for Groundwater and Solid Mineral Resources	A	AGPH-05	2	2	6	Exam
	Professional Practice Stage (I) (30 hrs)	A	AGPH-06	921	2	2	Verification
OPTIO	ONAL COURSES <sup>2</sup>		·				
6	(a) Advanced Seismic Acquisition Technology	A	AGPH-07	1	1	5	Exam
υ	(b) Gravity and Magnetic Exploration of Sedimentary Basins	A	AGPH-08				
		TOTAL	7	7	30		

<sup>—</sup> One of the options: S = Synthesis discipline; A = Advanced discipline; C = Complementary discipline

Educational activities (28 hours / week): 7 weeks

Marian Preda

Director, Department of Geophysics

Assoc. Prof. Do Bogdan Niculescu

Program Manager

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Assoc. Prof. Dr. Boadan Niculescu

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<sup>2 -</sup> One course to be selected out of two

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Vear I - Semester 2

	T	1 cai 1 - Sem	CSICI Z				
Item		Type <sup>1</sup>	Code	Hours/week and number of credits			Form of graduation
				Course	Lab	Credits	(exam/verification)
COM	PULSORY COURSES						
1	Seismic Exploration for Hydrocarbons II	S	AGPH-09	1	1	5	Exam
2	Data Acquisition and Processing in Shallow Seismics	A	AGPH-10	1	1	4	Exam
3	Marine Geophysics	S	AGPH-11	1	1	5	Exam
4	Quantitative Well Log Interpretation	A	AGPH-12	1	1	4	Exam
5	Advanced Geophysical Data Processing	A	AGPH-13	2	2	6	Exam
	Professional Practice Stage (II) (30 hrs)	A	AGPH-14	(#X)		2	Verification
OPTI	ONAL COURSES <sup>2</sup>						
6	(a) Exploration for Subtle Traps in the Petroleum Systems of Romania	- A	AGPH-15	4			
	(b) Oil and Gas Geological Traps	A	AGPH-16		1	4	Exam
		11	TOTAL	7	7	30	

<sup>1 –</sup> One of the options: S = Synthesis discipline; A = Advanced discipline; C = Complementary discipline
2 – One course to be selected out of two
Educational advances (28 hours / week): 7 weeks

Director, Department of Geophysics Assoc. Prof. Dr. Bogdan Niculescu

Program Manager

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Vear II - Semester 3

		rear II - Sei	nester 5				
Item	Courses	Type <sup>1</sup>	Code	Hours/week and number of credits			Form of graduation
				Course	Lab	Credits	(exam/verification)
COMI	PULSORY COURSES		Ÿ=====	<del></del>			
11	Geophysical Investigation and Monitoring in Environmental Studies	A	AGPH-17	1	1	5	Exam
2	Geophysics for Geotechnical Engineering	A	AGPH-18	1	1	4	Exam
3	Geophysics for Archaeology	A	AGPH-19	1	1	4	Exam
4	Geophysical Investigation of Active and Passive Continental Margins	S	AGPH-20	2	2	6	Exam
5	Tectonophysics	S	AGPH-21	1	1	5	Exam
	Professional Practice Stage (III) (40 hrs)	A	AGPH-22	-	(#)	2	Verification
OPTIO	ONAL COURSES <sup>2</sup>	· · · · · · · · · · · · · · · · · · ·	·		···		
6	(a) Seismic Stratigraphy	A	AGPH-23		1		_
6	(b) Electromagnetic Methods in Geophysics	A	AGPH-24	1	1	4	Exam
			TOTAL	7	7	30	

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Educational activities (28 hours / week): 7 weeks

Rector

Director, Department of Geophysics Assoc. Prof. Dr. Bogdan Niculescu Program Manager

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Year II - Semester 4

	10	at 11 - Semester -	<u> </u>			
Courses	Type <sup>1</sup>	Code	Hours/week and number of credits			Form of graduation
			Course	Lab	Credits	(exam/verification
ULSORY COURSES						
Georadioactivity and Radioactive Contamination	S	AGPH-25	1	1	5	Exam
Monitoring of Faults and Engineering Constructions	A	AGPH-26	1	1	5	Exam
Toxic and Radioactive Waste Disposal	A	AGPH-27	1	1	5	Exam
Hydrogeological Investigation of Aquifers	A	AGPH-28	1	1	5	Exam
Research Stage for M.Sc. Thesis Defense (350 hrs)	A	AGPH-29	=	-	10	Verification
	"	TOTAL	4	4	30	
TIVE COURSE						
Wavelet Transform in Seismic Data Processing	A	AGPH-30	1	1	5	Verification
Thesis Defense		·			10	
	ULSORY COURSES  Georadioactivity and Radioactive Contamination  Monitoring of Faults and Engineering Constructions  Toxic and Radioactive Waste Disposal  Hydrogeological Investigation of Aquifers  Research Stage for M.Sc. Thesis Defense (350 hrs)  TVE COURSE  Wavelet Transform in Seismic Data Processing	Courses  Type¹  ULSORY COURSES  Georadioactivity and Radioactive Contamination S Monitoring of Faults and Engineering Constructions A Toxic and Radioactive Waste Disposal A Hydrogeological Investigation of Aquifers A Research Stage for M.Sc. Thesis Defense (350 hrs)  A  TIVE COURSE  Wavelet Transform in Seismic Data Processing A	Courses  Type¹ Code  ULSORY COURSES  Georadioactivity and Radioactive Contamination S AGPH-25 Monitoring of Faults and Engineering Constructions A AGPH-26 Toxic and Radioactive Waste Disposal A AGPH-27 Hydrogeological Investigation of Aquifers A AGPH-28 Research Stage for M.Sc. Thesis Defense (350 hrs) A AGPH-29  TOTAL  TVE COURSE  Wavelet Transform in Seismic Data Processing A AGPH-30	Course  ULSORY COURSES  Georadioactivity and Radioactive Contamination  Monitoring of Faults and Engineering Constructions  Toxic and Radioactive Waste Disposal  Hydrogeological Investigation of Aquifers  Research Stage for M.Sc. Thesis Defense (350 hrs)  A AGPH-29  TOTAL  TOTAL  Wavelet Transform in Seismic Data Processing  A AGPH-30  1	CoursesType¹CodeHours/week and numberULSORY COURSESCourseLabGeoradioactivity and Radioactive ContaminationSAGPH-2511Monitoring of Faults and Engineering ConstructionsAAGPH-2611Toxic and Radioactive Waste DisposalAAGPH-2711Hydrogeological Investigation of AquifersAAGPH-2811Research Stage for M.Sc. Thesis Defense (350 hrs)AAGPH-29TOTAL44TVE COURSEWavelet Transform in Seismic Data ProcessingAAGPH-3011	Courses  Type¹ Code  Hours/week and number of credits  Course Lab Credits  ULSORY COURSES  Georadioactivity and Radioactive Contamination S AGPH-25 1 1 5  Monitoring of Faults and Engineering Constructions A AGPH-26 1 1 5  Toxic and Radioactive Waste Disposal A AGPH-27 1 1 1 5  Hydrogeological Investigation of Aquifers A AGPH-28 1 1 5  Research Stage for M.Sc. Thesis Defense (350 hrs) A AGPH-29 - 10  TOTAL 4 4 30  TVE COURSE  Wavelet Transform in Seismic Data Processing A AGPH-30 1 1 5

<sup>1-</sup>One of the options: S = Synthesis discipline; A = Advanced discipline; C = Complementary discipline
2-One course to be selected out of two

Educational activities (28 hours / week): 7 weeks

Rector, & Prof. Dr. Marian Preda

Director, Department of Geophysics Assoc. Prof. Dr. Bogdan Niculescu

Program Manager

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