The Ministry of Science and Higher Education of the Russian Federation
Federal State-Funded Educational Institution of
Higher Education
Perm National Research Polytechnic University
PNRPU

This curriculum has been approved by the Academic Council
"18" 06 2020г. Protocol №10

CONFIRMED
Vice Rector for Academic Affairs
_____ *N.V. Lobov*
"18" 06 _____ *2020 y.*

CURRICULUM

Higher education level:
Qualification: Bachelor's degree
Study form: Full-time
Duration: 4 years
Faculty: Mining and Oil
Department: Oil and gas technologies
21.00.00 APPLIED GEOLOGY, MINING, OIL AND GAS ENGINEERING AND GEODESY
Oil and Gas Engineering

Professional activity:

Calendar training schedule

	September					October				November				December					January				February				March					April					May				June					July				August				Number of weeks									
course	1-7 Sep	8-14 Sep	15-21 Sep	22-28 Sep	29 Sep - 5 Okt	6-12 Oct	13-19 Oct	20-26 Oct	27 Oct - 2 Oct	3-9 Nov	10-16 Nov	17-23 Nov	24-30 Nov	1-7 Dec	8-14 Dec	15-21 Dec	22-28 Dec	29 Dec - 4 Jan	5-11 Jan	12-18 Jan	19-25 Jan	26 Jan - 1 Feb	2-8 Feb	9-15 Feb	16-22 Feb	23 Feb - 1 Mar	2-8 Mar	9-15 Mar	16-22 Mar	23-29 мар	30 Mar - 5 Apr	6-12 Apr	13-19 Apr	20-26 Apr	27 Apr - 3 May	4-10 May	11-17 May	18-24 May	25-31 May	1-7June	8-14 June	15-21 June	22-28 June	29 June - 5 July	6-12 July	13-19 July	20-26 July	27 July - 2 Aug	3-9 Aug	10-16 Aug	17-23 Aug	24-30 Aug	Theoretical learning			Exam session	Study practice	Internship	Preparing for graduation defense qualification work	Qualification work	Vacation	Total	Course
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	W	W	Year								
1																		H		E	E	V																			E	E	E	V	V	V	V	V	V	V	V	V	18	18	36	5					10	52	1
2																		H		E	E	V																			E	E	E	S	S	V	V	V	V	V	V	V	18	18	36	5	2				9	53	2
3																		H		E	E	V																			E	E	E	S	S	V	V	V	V	V	V	V	18	18	36	5	2				9	53	3
4																		H		E	E	V	I	I	I	I	I	I	I	I	I	I	I	I	I	I		G	P	P	P	P	G	V	V	V	V	V	V	V	V	V		18	1	19	2		14	4	2	9	51	4
																																																							127	17	4	14	4	2	37	209	

Legend:
- [ ] - Theoretical learning
- [E] - Exam session
- [S] - Study practice
- [I] - Internship
- [P] - Preparing for graduation defense qualification work
- [G] - Qualification work
- [V] - Vacation
- [=] - Study completed

Head of Educational Program Dept., PhD, associate professor
_____ D.S. Repetskiy

Study courses (modules),field studies, state final examinaltion

Faculty: Mining and Oil | : 21.00.00 APPLIED GEOLOGY, MINING, OIL AND GAS Engineering AND GEODESY

Department: Oil and gas technologies | : Oil and Gas Engineering

Department	Course index	Course name	Type of assessment per semesters: Exam	Dif. Test	Test	Course project	Course work	Total teaching load per instructional activity, AH: Total	including: Exam	Classes	of those: Lections	Lab classes	Practicals	CSW	SSW
Unit 1 (U1). Study courses (modules)															
Basic (compulsory)								**5256**							
Guil	B1.B.01	History		1				144		63	27		32	4	81
FiP	B1.B.02	Philosophy		2				144		63	27		32	4	81
EF	B1.B.03	Economics		3				144		63	27		32	4	81
FiP	B1.B.04	Legal studies			6			108		45	18		25	2	63
SiP	B1.B.05	Sociology		4				144		63	27		32	4	81
IYLP	B1.B.06	Language courses		2	1			216		90			82	8	126
FK	B1.B.07	Physical training			1			72		28	8		16	4	44
BZ	B1.B.08	Occupational safety and health			5			108		54	36	16		2	54
OOS	B1.B.09	Ecology			7			108		45	16		27	2	63
PM	B1.B.10	Mathematics	2, 4	3				576	72	242	88		142	12	262
OF	B1.B.11	Physics	1, 3	2				504	72	180	72	54	48	6	252
HBT	B1.B.12	Chemistry	2					180	36	64	18	34	8	4	80
GEM	B1.B.13	Computer science	1					180	36	54	18	32		4	90
DGNG	B1.B.14	Engineering geometry and computation graphics		3				144		63	18	16	25	4	81
MTO	B1.B.15	Material science			4			108		45	16	18	9	2	63
VMMB	B1.B.16	Theoretical mechanics		2				180		72	27		41	4	108
MtiKM	B1.B.17	Solids and structures	3				3	180	36	54	16	18	18	2	90
MtiKM	B1.B.18	Theory of mechanisms and machines			4		4	108		45	16	9	18	2	63
MtiKM	B1.B.19	Machine parts and basic design	5			5		180	36	54	16	18	18	2	90
SPMiTM	B1.B.20	Thermodynamics and heat transfer	4					144	36	36	16	18		2	72
EtiEM	B1.B.21	Electrotechnics and electronics		5				144		54	18	16	16	4	90
GEM	B1.B.22	Metrology, standardization and certification			5			108		45	16	16	9	4	63
HT	B1.B.23	Oil and gas chemistry	2					108	36	38	18		18	2	34
GNG	B1.B.24	Petroleum geology		1				144		74	36	18	18	2	70
NGT	B1.B.25	Production geology	2					108	36	38	18		18	2	34
MDGiGIS	B1.B.26	Geodesy			6			108		56	18	36		2	52
NGT	B1.B.27	Petrophysics	3					180	36	72	34	18	18	2	72
NGT	B1.B.28	Fluid mechanics and well testing	4				4	216	36	83	45	18	18	2	97
NGT	B1.B.29	Labour Protection and Process Safety	6					180	36	74	36		36	2	70
NGT	B1.B.30	Study and research work		4	1, 2, 3			288		152			144	8	136
Variable (compulsory)								**1764**							
NGT	B1.V.01	Drilling and well engineering	5, 6, 7			7		576	108	195	90	54	45	6	273
NGT	B1.V.02	Oil and gas equipment	5			5		216	36	83	36	9	36	2	97
NGT	B1.V.03	Reservoir engineering	6			6		252	36	91	45		36	10	125
NGT	B1.V.04	Well production and surface facilities engneering	7			7		252	36	83	45	18	18	2	133
NGT	B1.V.05	Construction and operation of oil and gas field facilities and tankfarms	7					216	36	74	36	18	18	2	106
NGT	B1.V.06	Automation of process controls in oil and gas production		7				144		54	34	18		2	90
EUPP	B1.V.07	Investment project feasibility study			7			108		45	18		25	2	63
Variable (disciplines of the student's choice)								**324**							
	B1.DV.00	Disciplines of the student's choice		6	5, 7			324		117	16		91	10	207
Total for Unit U1:								**7344**	756	2851	1066	472	1169	144	3737

Total teaching load distribution per instructional activity per semester, AH

Course index	year 1: 1 semester 18 weeks					year 1: 2 semester 18 weeks					year 2: 3 semster 18 weeks					year 2: 4 semester 18 weeks					year 3: 5 semester 18 weeks					year 3: 6 semester 18 weeks					year 4: 7 semester 18 weeks					year 4: 8 semester 1weeks					Total teaching load, CU
	Lections	Labd classes	Practicals	CSW	SSW	Lections	Lab classes	Practicals	CSW	SSW	Lections	Lab classes	Practicals	CSW	SSW	Lections	Lab classsses	Practicals	CSW	SSW	Lections	Lab classes	Practicals	CSW	SSW	Lections	Lab classes	Practicals	CSW	SSW	Lections	Lab classes	Practicals	CSW	SSW	Lections	Lab classes	Practicals	CSW	SSW	
B1.B.01	27		32	4	81																																				4
B1.B.02						27		32	4	81																															4
B1.B.03											27		32	4	81																										4
B1.B.04																										18		25	2	63											3
B1.B.05																27		32	4	81																					4
B1.B.06			41	4	63			41	4	63																															6
B1.B.07	8		16	4	44																																				2
B1.B.08																					36	16		2	54																3
B1.B.09																															16		27	2	63						3
B1.B.10						32		44	4	100	32		54	4	90	24		44	4	72																					16
B1.B.11	24	18	16	2	84	24	18	16	2	84	24	18	16	2	84																										14
B1.B.12						18	34	8	4	80																															5
B1.B.13	18	32		4	90																																				5
B1.B.14											18	16	25	4	81																										4
B1.B.15																16	18	9	2	63																					3
B1.B.16						27		41	4	108																															5
B1.B.17											16	18	18	2	90																										5
B1.B.18																16	9	18	2	63																					3
B1.B.19																					16	18	18	2	90																5
B1.B.20																16	18		2	72																					4
B1.B.21																					18	16	16	4	90																4
B1.B.22																					16	16	9	4	63																3
B1.B.23						18		18	2	34																															3
B1.B.24	36	18	18	2	70																																				4
B1.B.25						18		18	2	34																															3
B1.B.26																										18	36		2	52											3
B1.B.27											34	18	18	2	72																										5
B1.B.28																45	18	18	2	97																					6
B1.B.29																										36		36	2	70											5
B1.B.30			36	2	34			36	2	34			36	2	34			36	2	34																					8
B1.V.01																					36	36	18	2	88	36	18	18	2	106	18		9	2	79						16
B1.V.02																					36	9	36	2	97																6
B1.V.03																										45		36	10	125											7
B1.V.04																															45	18	18	2	133						7
B1.V.05																															36	18	18	2	106						6
B1.V.06																															34	18		2	90						4
B1.V.07																															18		25	2	63						3
B1.DV.00																							32	4	72			32	4	72	16		27	2	63						9
Total for Unit U1:	828					1116					972					864					972					864					972										204

Начальник отдела обеспечения учебного процесса УОП

Department	Course index	Course name	Type of assessment per semesters: Exam	Dif. Test	Test	Course project	Course work	Total teaching load per instructional activity, AH: Total	including: Exam	Classes	of those: Lections	Lab classes	Practicals	CSW	SSW	Total teaching load, CU
Unit 2 (U2). Field studies																
Variable (compulsory)								**972**								
NGT	B2.V.01	Practical trainging, geology		4				108							108	3
NGT	B2.V.02	Practical training, orientation		6				108							108	3
NGT	B2.V.03	Internship, technology		8				540							540	15
NGT	B2.V.04	Internship, pre-graduate		8				216							216	6
Total for U2:								**972**							972	27
Unit 3 (U3). State Final Examination (SFE)																
Basic (compulsory)								**324**								
NGT	B3.B.01	Preparation to hold state examination	8					54							54	1,50
NGT	B3.B.02	Preparation to the procedure of graduate qualification work defence						216							216	6
NGT	B3.B.03	Graduate qualification work defence						54							54	1,50
Total for U3:								**324**							324	9
Optinal courses (FTD)																
	FTD.00	Optional courses			1			36		8	4		2	2	28	1
Total for Optinal courses:								**36**		8	4		2	2	28	1
Total for study course (modules):																
For curriculum, AH:								**8676**	756	2859	1070	472	1171	146	5061	241
Teaching load per week, AH:																
Course projects:								5								
Course works:								3								
Examinations:								21								
Tests:								29								

Total teaching load distribution per instructional activity per semester, AH — year 1, 1 semester 18 weeks:

Course	Lections	Labd classes	Practicals	CSW	SSW
FTD.00 Optional courses	4		2	2	28
Total for Optinal courses:	36				

	year 1: 1 semester 18 weeks	2 semester 18 weeks	year 2: 3 semster 18 weeks	4 semester 18 weeks	year 3: 5 semester 18 weeks	6 semester 18 weeks	year 4: 7 semester 18 weeks	8 semester 1weeks
For curriculum, AH:	864	1116	972	864	972	864	972	
Teaching load per week, AH:	21 / 48,00	28 / 62,00	24 / 54,00	21 / 48,00	23 / 54,00	21 / 48,00	21 / 54,00	0 / 0,00
Course projects:					2	1	2	
Course works:			1	2				
Examinations:	2	4	3	3	3	3	3	
Tests:	5	5	4	4	4	3	4	

Description: AH – academis hour
CU – credit unit
SSA– self-study assessment
ECCW – extra-class contact work
APT – other assignments for practical training
CW – contact work
CIW – student independent work

Начальник отдела обеспечения учебного процесса УОП ____

Elective courses (modules)

Faculty: Mining and Oil
: 21.00.00 APPLIED GEOLOGY, MINING, OIL AND GAS Engineering AND GEODESY

Department: Oil and gas technologies
: Oil and Gas Engineering

School	Course index	Course name	Type of assessment per semesters: Exam	Dif. Test	Test	Course project	Course work	Total teaching load per instructional activity, AH: Total	Exam	Classes	Lections	Lab classes	Practicals	CSW	SSW	Total teaching load, CU
Unit 1 (U1). Study courses (modules)																
	B1.CV.00	Elective courses		6	5, 7			324		117	16		91	10	207	9
IYLP	B1.CV.01.1	Foreign language (business)		6	5			216		72			64	8	144	6
EUPP	B1.CV.01.2	Business and economics		6	5			216		72			64	8	144	6
MiM	B1.CV.01.3	Innovative economy and technological entrepreneurship		6	5			216		72			64	8	144	6
SiP	B1.CV.01.4	Business communications		6	5			216		72			64	8	144	6
SiP	B1.CV.01.5	Social inclusion of persons with disabilities		6	5			216		72			64	8	144	6
VM	B1.CV.02.1	Mathematics, special chapters			7			108		45	16		27	2	63	3
OF	B1.CV.02.2	Physics, special chapters			7			108		45	16		27	2	63	3
HBT	B1.CV.02.3	Chemistry, special chapters			7			108		45	16		27	2	63	3
NGT	B1.CV.02.4	Applied computer science			7			108		45	16		27	2	63	3
FK	B1.CV.03	Applied physical training – elective courses (module) by sports type			1, 2, 3, 4, 5, 6			328		328			316	12		
Total for Unit U1:								**324**		117	16		91	10	207	9
Optinal courses (FTD)																
	FTD.00	Optional courses			1			36		8	4		2	2	28	1
Scien.library	FTD.Ф.01	General information and library culture			1			36		8	4		2	2	28	1
Total:								**36**		8	4		2	2	28	1
Total per courses (modules):																
Per curriculum, AH:								**360**		125	20		93	12	235	10
Course project:																
Course work:																
Exams:																
Tests:								3								

Total teaching load distribution per instructional activity per semester, AH — year 1 and year 2

Course index	1 semester 18 weeks: Lections	Labd classes	Practicals	CSW	SSW	2 semester 18 weeks: Lections	Lab classes	Practicals	CSW	SSW	3 semster 18 weeks: Lections	Lab classes	Practicals	CSW	SSW	4 semester 18 weeks: Lections	Lab classses	Practicals	CSW	SSW
B1.CV.00																				
B1.CV.01.1																				
B1.CV.01.2																				
B1.CV.01.3																				
B1.CV.01.4																				
B1.CV.01.5																				
B1.CV.02.1																				
B1.CV.02.2																				
B1.CV.02.3																				
B1.CV.02.4																				
B1.CV.03			34	2				70	2				34	2				70	2	
Total for Unit U1:																				
FTD.00	4		2	2	28															
FTD.Ф.01	4		2	2	28															
Total:	36																			
Per curriculum, AH:	36																			
Course project:																				
Course work:																				
Exams:																				
Tests:																				

Total teaching load distribution per instructional activity per semester, AH — year 3 and year 4

Course index	5 semester 18 weeks: Lections	Lab classes	Practicals	CSW	SSW	6 semester 18 weeks: Lections	Lab classes	Practicals	CSW	SSW	7 semester 18 weeks: Lections	Lab classes	Practicals	CSW	SSW	8 semester 1weeks: Lections	Lab classes	Practicals	CSW	SSW
B1.CV.00			32	4	72			32	4	72	16		27	2	63					
B1.CV.01.1			32	4	72			32	4	72										
B1.CV.01.2			32	4	72			32	4	72										
B1.CV.01.3			32	4	72			32	4	72										
B1.CV.01.4			32	4	72			32	4	72										
B1.CV.01.5			32	4	72			32	4	72										
B1.CV.02.1											16		27	2	63					
B1.CV.02.2											16		27	2	63					
B1.CV.02.3											16		27	2	63					
B1.CV.02.4											16		27	2	63					
B1.CV.03			54	2				54	2											
Total for Unit U1:	108					108					108									
FTD.00																				
FTD.Ф.01																				
Total:																				
Per curriculum, AH:	108					108					108									
Course project:																				
Course work:																				
Exams:																				
Tests:	1					1					1									

Начальник отдела обеспечения учебного процесса УОП ____________

Aggregate data

Faculty: Mining and Oil : 21.00.00 APPLIED GEOLOGY, MINING, OIL AND GAS Engineering AND GEODESY

Department: Oil and gas technologies : Oil and Gas Engineering

Course	Total teaching load per instructional activity, AH				Total teaching load, CU	Practicals (У,П)			Preparation for GQW defence (D)			State exam And GQW defence procedure (G)			Total	
	Class	SIW	Exam	Total		Week	AH	CU	Week	AH	CU	Week	AH	CU	AH	CU
1	868	1112	216	2196	61	0	0	0	0	0	0	0	0	0	2196	61
2	822	1014	216	2052	57	2	108	3	0	0	0	0	0	0	2160	60
3	794	1042	216	2052	57	2	108	3	0	0	0	0	0	0	2160	60
4	375	597	108	1080	30	14	756	21	4	216	6	2	108	3	2160	60
Total	2859	3765	756	7380	205	18	972	27	4	216	6	2	108	3	8676	241

Part of study cycle	Distribution of credit units per study cycles														
	Courses (modules)			Practicals			SFE			Optional courses			Total		
	min	max	Plan	min	max	Plan	min	max	Plan	min	max	Plan	min	max	Plan
Basic	0	0	146										0	0	146
Variable	0	0	58										0	0	58
Total	0	0	204	0	0	27	0	0	9	0	0	1	0	0	241
Calculation accuracy	0,25												No optinoals		240

Subject to research, CU 241

Basic (compulsory) part volume, excl. SFE volume, %	71,57
Percentage of disciplines of the student's choice of the total volume of the variable part	15,52
Per cent share of lectures in class amount	37,39

Dean of Mining and Oil Faculty _____ S.V. Galkin

Head of School of Oil and Gas Technology _____ G.P. Hizhnyak

Начальник отдела обеспечения учебного процесса УОП