



**Geology and oil-gas Business Institute named after k. Turyssov
Department of "Geophysics and Seismology"**

**EDUCATIONAL PROGRAM
7M05302 Seismology**

Code and classification of the field of education: 7M05 Natural Sciences,
Mathematics and Statistics

Code and classification of training directions: 7M053 Physical and chemical sciences

Group of educational programs: M091 Seismology

Level based on NQF: 7

Level based on IQF: 7

Study period: 2 years

Amount of credits: 120

Almaty 2025




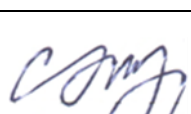
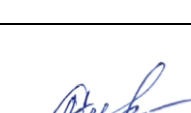

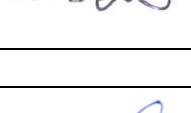
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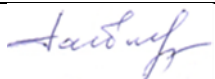


Educational program 7M05302 Seismology was approved at the meeting of K.I. Satbayev KazNRTU Academic Council
Minutes #10 dated "06". 03. 2025 y.

was reviewed and recommended for approval at the meeting of K.I. Satbayev KazNRTU Educational and Methodological Council
Minutes #3 dated "20".12. 2024 y.

Educational program 7M05302 Seismology was developed by Academic committee based on direction «7M053 «Physical and Chemical Sciences»

Full name	Academic degree/ academic title	Position	Workplace	Signature
Teaching staff:				
Boranbai Tovbasarovich Ratov	Doctor of Technical Sciences, Professor	Head of the Department of Geophysics and Seismology	Kazakh National Research Technical University named after K.I.Satpayev	
Abetov Auez Egemberdievich	Doctor of Geological and Mineralogical Sciences	Professor	Kazakh National Research Technical University named after K.I.Satpayev	
Umirova Gulzada Kubashevna	Doctor of PhD	Associate Professor	Kazakh National Research Technical University named after K.I.Satpayev	
Temirkhanova Raushan Galimzhanovna	Doctor of PhD	Associate Professor	Kazakh National Research Technical University named after K.I.Satpayev	
Siytkanova Akgenzhe Orishanovna	Doctor of PhD	Senior Teacher	Kazakh National Research Technical University named after K.I.Satpayev	
Aliakbar Madiyar Manarbekuly	Master of Technical Sciences	Senior Teacher	Kazakh National Research Technical University named after K.I.Satpayev	
Employers:				
Mikhailova Natalia Nikolaevna	Doctor of Physical and Mathematical Sciences	Director	Kazakhstan National Data Center (KNDC)	

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Uzbeks Nursarsen Bolataevich	Candidate of Physical and Mathematical Sciences	Deputy Director of Science	Institute of Seismology	
Students				
Dosymbekova Zhansaya	Master of Technical Sciences	Doctoral student 2 years of study	Institute of Seismology	
Isagali Asem	Master of Technical Sciences	Doctoral student 2 years of study	Kazakhstan National Data Center (KNDC)	
Muzapparova Akerke Bakbergenovna	Master of Technical Sciences	Doctoral student 1 years of study	Kazakh National Research Technical University named after K.I.Satpayev	

General information

№	Field name	Comments
1	Code and classification of the field of education	7M05 Natural sciences and mathematics
2	Code and classification of training directions	7M053 Physical and chemical sciences
3	Educational program group	M091 Seismology
4	Educational program name	7M05302 Seismology
5	Short description of educational program	<p>The master's program in EP 7M05302 “Seismology” provides:</p> <p>a) training of highly qualified specialists in the field of seismological methods of seismic hazard assessment, risk and earthquake forecasting;</p> <p>b) obtaining high-quality and professional knowledge on forecasting the places of occurrence, strength and recurrence of earthquakes; conducting detailed studies of earthquake preparation processes in a real physical and geological environment, displacements of Earth blocks and other transformations of the environment in foci, assessing the parameters of the focus, identifying earthquake precursors and those who are able to develop long-term, medium-term and short-term earthquake forecasts, methods of controlling the seismic process, to assess the possibility of anthropogenic (man-made) influence on seismicity;</p> <p>c) professional solution of engineering and seismological problems in the study of earthquake-induced seismic wave field near the hearth, the study of strong seismic movements of the Earth's surface and the interaction of soil with the structure, the development of methods and conducting seismic micro-zoning, determining the impact of earthquakes on the hydrosphere and the Earth's atmosphere.</p> <p>d) qualified research away from the earthquake source when studying the wave seismic field at distances exceeding the length of the seismic wave, as well as the development and use of seismic methods of cognition of the internal structure of the Earth. Adjacent to this direction is the study of seismic noise on the Earth's surface - microseism. The applied tasks include registration and recognition of underground nuclear tests. e) obtaining high-quality and professional knowledge by undergraduates on the stages and rational complexes of seismogeophysical research, processing, interpretation and modeling of the data obtained</p>
6	Purpose of EP	Training of seismologists with a high level of theoretical and practical knowledge, capable of organizing, conducting and managing the recording, processing and complex analysis of seismological data using sustainable methods, machine learning technologies and software for research and professional activities, taking into account environmental, social and economic factors aimed at minimizing the impact on the

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		environment and ensuring safety for people and ecosystems
7	Type of EP	New EP
8	The level based on NQF	7
9	The level based on IQF	7
10	Distinctive features of EP	no
11	Education form	full - time
12	Period of training	2
13	Amount of credits	120
14	Languages of instruction	Kazakh, russian, english
15	Academic degree awarded	Master of Science
16	Developer(s) and authors	Professor Abetov A.E., Associate professor Umirova G.K.