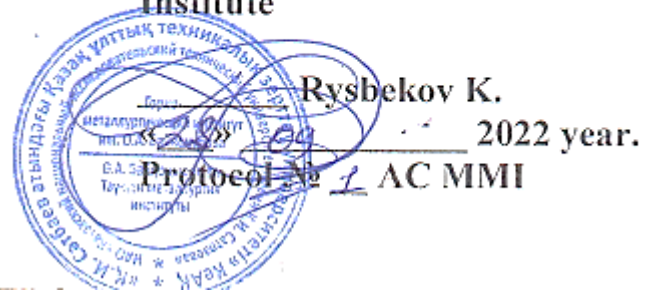


«Approve»

Director of Mining and Metallurgy
Institute



DEVELOPMENT PLAN

Educational Program (EP): 7M07306 Geospatial Digital Engineering

1. General Information

The educational program "7M07306 Geospatial Digital Engineering" has been developed in accordance with the National Qualification Framework, aligned with the Dublin Descriptors and the European Qualification Framework. The program is designed based on a modular system of discipline study, forming general cultural and professional competencies.

The uniqueness of this program lies in the in-depth training of specialists in spatial analysis, digital cartography, and automated land resource management using artificial intelligence and machine learning. The program focuses on developing research competencies and creating innovative solutions for geodesy, infrastructure monitoring, and natural resource management based on remote sensing data and GIS technologies.

2. Planning of the Educational Program

The planning and management of the educational program are carried out based on the priority areas and strategic goals of Satbayev University (<https://official.satbayev.university/ru/university/mission-strategy>) and the O.A. Baikonurov Mining and Metallurgical Institute, which reflect the vision, mission, strategic directions, and key performance indicators (<https://official.satbayev.university/ru/mining-metallurgy>).

3. Objective of the Educational Program Development

The main objective of the program is to train highly qualified scientific, technical, and engineering personnel in the fields of geodesy, geoinformatics, and geospatial digital technologies, ensuring openness, safety, resilience, and environmental sustainability of cities and settlements.

4 Objectives of the development of the educational program

Task 1: preparation of specialists for research and design work in the field of Geodesy, cartography, Geoinformatics, surveying and land management, including those related to the selection of the necessary research methods, modification of existing ones and the development of new methods based on the tasks of a specific

study.

Task 2: preparation of specialists for production and technological activities that ensure the introduction of new digital developments at the local level.

Task 3: the readiness of specialists to search and receive new information necessary to solve professional tasks in the field of knowledge integration related to their field of activity, active participation in the activities of an enterprise or organization.

Task 4: the readiness of specialists to engage in organizational and managerial and service activities, to take responsibility for making their professional decisions, with a clear and deep justification of their position on scientific and informational, ideological and problem communications in a professional environment and a non-specialist audience.

Task 5: preparation of specialists for self-training and continuous professional development at all stages of scientific or professional activity.

5. Plan for improving the educational program for 2023-2026

Event content	Director of the institute, Head of the department, teaching
Formation of a working group and commission for the development of the educational program's development plan	Institute Director, Head of Department, Teaching Staff
Defining the goals and objectives of the educational program's development plan	Institute Director, Head of Department, Teaching Staff
Studying and analyzing the competitive environment, identifying opportunities for the department to enhance the image and attractiveness of the educational program (students, parents, business partners)	Institute Director, Head of Department, Teaching Staff
Effective positioning of the educational program implemented by the department based on analytical research of the educational services market	Institute Director, Head of Department, Teaching Staff
Updating and improving the content of the educational program, including the names of disciplines that define modern professional competencies of specialists	Institute Director, Head of Department, Teaching Staff
Strengthening the material and technical base	Institute Director, Head of Department, Teaching Staff
Enhancing career guidance work and attracting applicants through trilateral agreements	Career Committee, Directorate, Head of
Engaging teaching staff from business partners in the educational process	Head of Department, Teaching Staff

Developing and implementing digital interactive learning formats, combining theoretical and practical teaching methods	Head of Department, Teaching Staff
Integrating innovative educational technologies into the learning process	Institute Director, Head of Department, Teaching Staff
Providing electronic educational materials and multimedia resources for all disciplines of the educational program	Institute Director, Head of Department, Teaching Staff
Ensuring the participation of faculty and students in interuniversity and international conferences	Institute Director, Head of Department, Teaching Staff
Establishing a research laboratory in the field of gravimetry	Institute Director, Head of Department, Teaching Staff
Regular professional development of the teaching staff	Institute Director, Head of Department, Teaching Staff
Ensuring safe and comfortable working, learning, and extracurricular conditions for students	Directorate, Head of Department
Developing corporate culture	Institute Director, Head of Department, Teaching Staff

Reviewed at the meeting of the MSaG Department Protocol № 3 dated September «20», 2022.

Head of the Department of MSaG



Orynbasarova E.O.