Specialist's Degree Program

OPEN PIT MINING

The program is designed to prepare specialists for work at enterprises leading the development of fields by open cut.

Specialists carry out technical management of mining and blasting operations, as well as perform work related to the conduct of mining operations in an open pit (coal mine).

Prerequisites:
- School leaving certificate of secondary (full) comprehensive education
- the results of the entrance examinations of Siberian Federal University
- good command of the Russian language

Qualification: Mining engineer

Skills/ objectives:
- perform a comprehensive justification of open pit mining;
- possession of knowledge of processes, technologies and mechanization of open pit mining and blasting operations;
- the ability to substantiate the main parameters of a quarry, opening a quarry field, opencast mining systems, mining mode, technology and mechanization of opencast mining, methods of preventing accidents and methods of eliminating their consequences;
- the ability to develop individual parts of projects for the construction, reconstruction and re-equipment of opencast mining facilities, design and technical documentation, taking into account the requirements of industrial safety;
- the ability to design environmental protection activities;
- readiness to use information technologies in the design and operation of open pits;

Program length: 5 years 6 months
Starting date: September, 1st
Language of instruction: Russian
Tuition fee per year: -
Program Leader: Aleksandr Kosolapov

Dr. Sc. (Engineering), professor, head of the Department of Open Pit Mining, School of Mining, Geology and Geotechnology

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Department of Open Pit Mining
Specialist's Degree Program

OPEN PIT MINING

CURRICULUM

- Physics of rocks;
- Information technology in mining;
- Mathematical methods and models for computer calculations in mining;
- Feasibility study of design solutions / Organization of business activities;
- Descriptive geometry, engineering and computer graphics;
- Theoretical mechanics;
- Applied mechanics;
- Strength of materials;
- Hydromechanics;
- Thermodynamics;
- Materials Science;
- Electrical engineering;
- Metrology, standardization and certification in mining: metrology and standardization, certification in mining;
- Vital activity safety;
- Blasting technology and safety: blasting technology, safety of blasting operations;
- Mining Safety and Mining Rescue;
- Mining Basics: open geotechnology, underground geotechnology, construction geotechnology;
- Geomechanics;
- Geodesy and mine surveying;
- Mining machines and equipment;
- Processing of minerals;
- Aerology of mining enterprises;
- Aerology of mining enterprises;
- Technology and complex mechanization of open pit mining;
- Quarry design;
- Rational use and protection of natural resources;
- Practical course in linear guidance;
- Open pit mining of coal and ore deposits;
- Hydromechanization of open pit mining;
- Extraction and processing of facing stone / Development of placers;
- Mining Project Management / Quarry Product Quality Management;
- Management of the state of the rock mass / destruction of rocks by explosion;
- Hydrogeology / Engineering Geology;
- Career transport / Aerogeotechnology

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