

# Mineral Economics

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<b>Faculty</b>	Faculty of Mining and Geology
<b>Type of study</b>	Follow-up Master
<b>Language of instruction</b>	English
<b>Code of the programme</b>	N0724A290014
<b>Title of the programme</b>	Mineral Economics
<b>Regular period of the study</b>	2 years
<b>Coordinating department</b>	Department of Economics and Control Systems
<b>Coordinator</b>	doc. Ing. Michal Vaněk, Ph.D.
<b>Key words</b>	economics and management, control and information systems, mineral deposits, commodity trading, mining industry

## About study programme

Satisfying human needs is inextricably linked to the mineral wealth of our planet. Ensuring raw materials in the necessary quantitative and qualitative parameters requires considerable effort on the part of man, especially if mineral raw materials are obtained under increasingly complex conditions. The process of obtaining mineral raw materials requires specialists who have a complex of knowledge and skills that enable solving professional and managerial problems in all its breadth and complexity. The economics of raw materials, as it is a multidisciplinary field of knowledge integrating deposit geology, mining, processing, economics and management, has the necessary prerequisites not only to study the subject matter, but also to prepare the necessary experts.

## Professions

- Manager
- Specialist in science, research and development
- Advisor in economics and business management
- Project manager
- Investment advisor
- Business manager
- Scientific, research and development worker at universities
- Business economist
- Process specialist
- Regional manager
- Project manager
- Manager in mining and geology

## Hard skills

- Knowledge of economic analyses
- Project management
- Knowledge of management
- Orientation in business economics
- Financial mathematics
- Knowledge in the field of waste management

- Knowledge of proposals for methods of smoothing out mining activities (remediation, reclamation)
- Cost reduction methods
- Knowledge of mining technology and processing of minerals
- Knowledge of organization and management of production activities (mine, quarry)
- Knowledge of raw materials and their use
- Knowledge of mining law
- Knowledge of process improvement methods
- IT skills/knowledge: MS Office, (Easy archive advantage)
- Knowledge in the field of production technologies

## **Graduate's employment**

Graduates can find their professional application mainly in the management functions of enterprises belonging to the mineral-raw materials complex. Graduates can also find employment in state and economic administration bodies from local to central bodies, research organizations and the educational system. Specifically, the following types of positions are involved: industrial engineer, head of mining and processing operations, surface mining production preparation technician, surface mining investment implementation technician, director of a small organization, project manager, process consultant, business process designer, team leader, manager, asset manager, product specialist.

## **Study aims**

The aim of the study is to prepare experts for the positions of specialists and managers of middle and top management levels not only in companies that deal with the search and exploration of deposits, mining, processing and trading of mineral raw materials, but also in public administration. In order to achieve the study objective, the Economics of Raw Materials is a combined study program. The study program is divided into two areas, namely area 29 - Extraction and processing of mineral resources (80%) and 33 - Earth sciences (20%).

## **Graduate's knowledge**

- The principles and techniques of searching and exploring mineral deposits.
- Classification and characteristics of ore and non-ore deposits.
- Principles of evaluating mineral deposits.
- Principles of calculating reserves of mineral resources.
- Application of raw materials in individual industries.
- Technology and organization of mining and treatment of mineral raw materials.
- Classification and characteristics of the processes of acquisition, extraction and use of mineral raw materials.
- Principles of valuation of deposits of mineral resources.
- Ways of leveling mining activity and reclamation.
- Principles of trading with mineral commodities.
- Principles of mineral commodity forecasting.
- Principles of modern industrial technologies.
- Principles of managing a mining company in the long term.
- Principles of project management in the conditions of mining enterprises.
- Principles of risk management and crisis management.
- Environmental management systems.
- Principles of circular economy.

## **Graduate's skills**

- Understanding of basic geological and surveying documentation.
- Risk assessment of the mining company and individual projects.

- Formulation of the project proposal and its elaboration into a project plan.
- Assess the project proposal from a technical and economic point of view.
- Apply forecasting methods on commodity markets.
- Apply international methods to determine the size of reserves at a given deposit.
- Determine the price of the commodity.
- Comprehensive analysis of the internal and external environment of the mining company.
- Apply environmental management systems in the conditions of a mining enterprise.
- Use advanced applications in MS Excel to solve technical and economic tasks.
- Apply modern techniques and approaches in managerial practice
- Conducting a discussion and defending one's opinions and positions.
- Creation of presentations on a professional topic
- Apply augmented reality in the presentation

### **Graduate's general competence**

The graduate is able to identify a problem and choose the procedure for solving it. He can present and defend his opinions and chosen solution procedures. The graduate is capable of management work. He can study foreign language professional texts, especially in English, he can communicate in English. The graduate is ready for further education in the field.

### **Study curriculum**

- form Full-time (en)