Nanotechnology

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Faculty	Faculty of Materials Science and Technology
Type of study	Bachelor
Language of instruction	English
Code of the programme	B0719A270002
Regular period of the study	3 years
Cost	50,000 CZK per semester
Coordinating department	Centre for Advanced Innovation Technologies
Coordinator	doc. Ing. Jonáš Tokarský, Ph.D.
Keywords	Nanomaterials, Nanotechnology

About study programme

The nanotechnology is one of the youngest and most significantly developing scientific disciplines of the 21st century. VŠB-TUO offers the study of this interesting field in a bachelor´s study. The program of study has interdisciplinary character and provides theoretical knowledge of physics and chemistry. It is focused on the study of the structure, properties of nanomaterials and their preparation. The graduate has wide range of employment in laboratories and operations of industrial enterprises that deal with modern materials. At the same time, the graduate can continue in follow up master degree program and thus deepen his knowledge and skills.

Graduate's employment

Typical job positions: instrument operator, specialist for science and research, technologist, technician. Graduates can operate in laboratories and departments of companies deals with nanomaterials preparation or testing their properties. They can also work in research organizations as qualified assistants of nanomaterials preparation or as operator of special devices used in characterization of materials and nanomaterials. After graduation, they can also continue to master studies of Nanotechnology or study of similar field focused on materials.

Study aims

The aim of Nanotechnology study is to provide education that prepares graduates for work in laboratory with technicians, professional physicist and chemists in industry, in scientific research and technology departments of companies deals with modern technologies, especially nanotechnologies.

Graduate's knowledge

The graduate has theoretical knowledge of basic natural science – mathematics, physics and chemistry. He is able to use his knowledge in practical application of preparation method and properties of nanomaterials including the environmental impact of their use. He knows and can use modern methods of characterization nanomaterials.

Graduate's skills

The graduate has professional skills in the field of nanomaterials preparation, method of characterization and practical application of nanomaterials. He can use instrumental techniques that is necessary for quantification of selected chemical and physical properties od nanomaterials. He can sort his knowledge and interpret information and can apply it for materials research in industrial practice and laboratories of research institutes focused on modern technologies, especially nanotechnologies.

Graduate's general competence

The graduate can make independent decisions of partial tasks and look for a solution of practical problems associated with the characterization and nanomaterials preparation. He can also formulate and interpret the results of experiments. He is familiar with professional, especially foreign language literature. He is able to communicate in one foreign language. The graduate find employment in industrial companies and research organizations such as operator of sophisticated instruments (electron microscope, atomic force microscope), technologist or member of research teams.

Professions

- Technologist
- Instrument operator

Hard skills

- Knowledge of materials