

Study programme Systems Engineering and Informatics

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Faculty	Faculty of Economics
Type of study	Doctoral
Language of instruction	English
Code of the programme	P0311D050020
Title of the programme	Systems Engineering and Informatics
Regular period of the study	4 years
Cost	500 CZK per semester
Coordinating department	Department of Systems Engineering and Informatics
Coordinator	prof. Ing. Jana Hančlová, CSc.
Key words	Decision support systems, Artificial intelligence and expert systems, System modelling and optimization, Data mining, Quantitative methods of economic analysis

About study programme

Systems Engineering and Informatics (SEI) postgraduate study program follows up several master's study programs at VŠB – TU Ostrava, Faculty of Economics, especially Information and knowledge management. This study program is scheduled for 4 years and graduates are awarded the Ph.D. degree. The program can be studied in several mutations – full-time and part-time, in Czech and in English.

The study consists of the study part ended up by the final state exam and research part focused on dissertation thesis and its defence. The credit system is applied for evaluation of the study. This system is in line with the European ECTS system, allowing for exchange mobilities of students between universities in Europe.

The graduates of the SEI study program adopt skills, which allows to manage systems analysis of various problems and establish new methodologies based on modern methods, IT and systemic approach. The study program is interdisciplinary and connects economics with informatics. This synergy gives rise to a wide field of positions in both research and business.

Professions

- Programmer and designer for intelligent building management
- Big data analyst
- System engineer
- Researcher
- Academic staff member
- IT analyst
- Risk management analyst

Hard skills

- Creation of methodologies
- Algorithms and data structures
- Analytical skills
- Process analysis and modelling

- Design and administration of knowledge and computing systems
- Knowledge of systematic and analytical methods in management

Graduate's employment

The graduates of Systems Engineering and Informatics (SEI) postgraduate study program can apply systems disciplines for solving various economic and technical problems. They can use and establish new methods for systems analysis and optimization based on intelligent tools. The graduates usually work as academic staff members, researchers at universities or companies, system analysts, IT experts, project portfolio managers, risk managers, systems integrators, decision support systems designer, data analysts.

Study aims

The goal of the Systems Engineering and Informatics (SEI) postgraduate study program (full-time and part-time study) is to educate experts who are able to interconnect knowledge and skills in systems disciplines in order to solve various economic and technical problems with the support of information and knowledge systems. The study is focused on the use and development of new methods allowing for analysis and solution of various problems related to the application of systems in a knowledge society. The study programme is interdisciplinary and interconnects economic fields and informatics.

Graduate's knowledge

The graduates of the Systems Engineering and Informatics study program acquire deep expert knowledge in systems disciplines, informatics, quantitative methods of economic analysis, data analysis and project management. Above that, they adopt knowledge on concepts of multidisciplinary approach.

Graduate's skills

The graduates of the SEI study program adopt skills, which allows to manage systems analysis of various problems and establish new methodologies based on modern methods, IT and systemic approach. They can solve well-structured and non-structured problems and lead large projects. The students are able to write out scientific texts in both Czech and English when dealing with the problems mentioned above. They have professional managerial skills at both tactical and strategic levels.

Graduate's general competence

The graduates improve their general qualification to search, process and use literature and other sources, choose goals and ways of solution for various problems. They can manage people in project teams, communicate with people from other organisations and countries, even in English using the latest IT tools. This is very useful even for international cooperation. The graduates take responsibility for their decisions and respect the IT legislative framework.