

# Applied Physics

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<b>Faculty</b>	Faculty of Electrical Engineering and Computer Science
<b>Type of study</b>	Doctoral
<b>Language of instruction</b>	English
<b>Code of the programme</b>	P0533D110006
<b>Title of the programme</b>	Applied Physics
<b>Regular period of the study</b>	4 years
<b>Coordinating department</b>	Department of Physics
<b>Coordinator</b>	prof. Dr. RNDr. Jiří Luňáček
<b>Key words</b>	Magnetic Properties of Materials, Progressive Technologies of Material Disintegration, Applied Nuclear Physics, Optical Diagnostics

## About study programme

Do you like the physics and its applications, fascinate you with the devices and equipment that our technical civilization creates, you want to participate in their development, and you have successfully completed a master's degree study of the same or related study program? Then the doctoral program Applied Physics is the right choice for you. You will become an expert in one of four optional subjects: Optical Diagnostics, Magnetic Properties of Materials, Applied Nuclear Physics, or Progressive Technologies of Material Disintegration. So do not forget to submit all required documents in time.

## Professions

- Research team leader in corporate development
- Supervisor at workplaces with ionizing radiation sources
- Research institute fellow
- Physical modeling engineer
- Academic staff member

## Hard skills

- Modelling of physical problems of practice
- Processing and evaluation of experimental data
- English language at a technical level
- Creation of technical reports
- Design of measurement methods

## Graduate's employment

Graduates of the Doctoral Program of Applied Physics will apply as fully qualified specialists in the fields of applied physics. They will be able to work independently or in scientific teams, including in leadership and management positions. The graduates are mainly employed as creative researchers in research institutes, teachers and scholars of higher education institutions, professional consultants of professional companies, employees of metrology departments of companies and companies, etc.

## Study aims

The basic aim of the field of Applied Physics is to educate qualified specialists who are able to apply modern physics theories and experimental methods to solve professional problems in the areas specified above. The study of the program is based on the individual study plan; it assumes the cooperation in the R & D activities of the department and is completed by the doctoral dissertation, which is to prove the ability to extend the knowledge acquired in the studied program in a creative way.

## **Graduate's knowledge**

The graduate is expected to have a deep theoretical knowledge of physical theories and methods, ability to systematically assess the phenomena under investigation, creatively use his / her conceptual and analytical capabilities and contemporary modern physical methods to solve real programs.

## **Graduate's skills**

Graduates of the Doctoral Program of Applied Physics are able to actively communicate with practitioners, create and use advanced new techniques and methods in the applied fields of applied physics, which allow the dissemination of knowledge in these areas by original research. It is able to develop new theories and methods including the definition of the fields or their inclusion in a broader context.

## **Graduate's general competence**

A graduate of a doctoral study is able to understand the interrelationships of science and technology disciplines that are part of the field of study. During his / her studies he / she will gain a high motivation and professional approach through systematic active participation in solving various projects, practical problems and familiarization with new knowledge of physical theory. He can comprehensibly and convincingly communicate his / her own knowledge in the field to other members of the scientific community at international level and to the general public at least in one foreign language.

## **Study curriculum**

- form Full-time (en)
- form Part-time (en)