

**BULGARIAN ACADEMY OF SCIENCES
INSTITUTE OF MATHEMATICS AND INFORMATICS**

Approved:

(Acad. V. Drensky, Director of IMI-BAS)

QUALIFICATION PROFILE

Higher Education Area:

4. Natural Sciences, Mathematics, and Informatics

Professional Field:

4.5. Mathematics

PhD Programme:

Mathematical Analysis

The PhD programme in Mathematical analysis provides the third degree of higher education for acquiring the educational and scientific degree of Doctor of Philosophy.

This Qualification Profile determines the knowledge, skills, personal and professional competences of PhD students who have pursued and completed the PhD programme in Mathematical analysis.

Requirements for admission and training

The admission and training of PhD students are in accordance with the legal requirements of:

- the Act on Higher Education;
- the Act on Development of the Academic Staff in the Republic of Bulgaria;
- the Regulations on the Implementation of the Act on Development of the Academic Staff in the Republic of Bulgaria;
- the Regulations on the Conditions and Order for Acquiring Scientific Degrees and Occupying Academic Positions at the Bulgarian Academy of Sciences;
- the Regulations on the Conditions and Order for Acquiring Scientific Degrees and Occupying Academic Positions at the Institute of Mathematics and Informatics at the Bulgarian Academy of Sciences;
- the Rules for the Activity of the Training Centre (TC) and the Academic Council (AC) of BAS.

The duration of the programme is:

- 3 years in case of full-time training;
- 4 years in case of part-time training;
- up to 3 years in case of self-study.

The PhD programme in Mathematical analysis provides the opportunity to obtain the educational and scientific degree of Doctor of Philosophy in professional field 4.5. Mathematics upon:

- successful completion of all stages of the PhD student's individual plan;
- successful defence of the thesis.

Aim

The PhD programme in Mathematical analysis aims to train highly qualified specialists with in-depth fundamental and professional competence for individual and team work in research and applied activities as well as teaching in the field of Mathematical analysis by creating skills for planning, organising and performing scientific and applied research and presenting its results.

Competences

Holders of the educational and scientific degree of Doctor of Philosophy in professional field 4.5. Mathematics, doctoral programme „Mathematical analysis“, shall have acquired knowledge, skills and habits for:

- independent study;
- handling with scientific works, mostly in a foreign language;
- fluency in a foreign language, preferably English as typical for the scientific field;
- teamwork;
- formulating problems, proposing solutions, justifying choices of approaches and methods;
- presenting scientific results orally and in writing;
- using scientific language and style, characterized by accuracy of scientific terminology, clarity and logical consistency in the presentation of facts and results;
- creation and interpretation of new knowledge, as a result of own theoretical and applied research or other scientific activity, by applying of modern mathematical tools;
- mastering of good level of modern information and communication technologies.

More specifically, the successful PhD graduates in Mathematical analysis at IMI-BAS shall:

- have acquired a wide professional horizon in the field of the doctoral programme in theoretical and applied aspect;
- have acquired skills for creating and applying modern and original approaches in theoretical and/or applied research in the field of the dissertation;

- be able to use modern information and communication technologies to facilitate research work;
- have gained experience in participating in national and international projects, organizing national and international scientific events;
- be skilled in presenting the achieved results at seminars, national and international conferences and other scientific forums;
- have acquired a high level of awareness of the world scientific achievements in the field of Mathematical analysis.

Careers

PhD Graduates in Mathematical analysis are highly qualified specialists, who can work as:

- lecturers in universities, colleges, etc.;
- researchers in scientific institutes;
- leaders or members of scientific teams working on national or international projects in fundamental or applied sciences;
- experts evaluators of projects in the field of Mathematical analysis;
- experts evaluators of dissertations, habilitation theses, publications in specialized journals, collections of works, textbooks, and monographs in the field of Mathematical analysis and applications, or other mathematical disciplines.

A PhD graduate can:

- participate in various forms of continuing qualification (postdoctoral programmes);
- apply for academic positions and obtain scientific degrees.

The Qualification Profile was approved by the Scientific Council of IMI-BAS on May 15, 2020 (Minutes No. 5).