

# **BULGARIAN ACADEMY OF SCIENCES INSTITUTE OF MECHANICS**

## **GENERAL CURRICULUM**

for training in the Ph. D. program "Fluid Mechanics"

Field of higher education:

### **4. Natural Sciences, Mathematics and Informatics**

Professional field:

#### **4.5. Mathematics**

Form of training: full-time/ part-time/ self

Study duration: 3 years / 4 years / up to 3 years

The training of doctoral students at the Institute of Mechanics is based on a credit system determined by the Training Center of the Bulgarian Academy of Sciences.

### **I. Educational program (mandatory minimum of 130 credits)**

The specialized training of doctoral students necessarily includes one basic and two specialized exams, a language exam and a computer skills exam, for which they receive a corresponding number of credits.

| Exam in:                     | Number of credits |
|------------------------------|-------------------|
| I.1. Basic discipline        | 40                |
| I.2a. Specialized discipline | 20                |
| I.2b. Specialized discipline | 20                |
| I.3. Language preparation    | 25                |
| I.4. Computer skills         | 25                |
| I.5. Other (if necessary)... |                   |

In accordance with Art. 16 of the Law for development of the academic staff, all exams under items I.1 and I.2 are taken before a commission appointed by the Director of the Institute of Mechanics, consisting of at least 3 habilitated persons with the participation of the doctoral student's scientific supervisor.

General academic language training and the exam in language preparation of doctoral students is carried out at the Training Center at the Bulgarian Academy of Sciences.

General academic training and the exam in computer skills of doctoral students is carried out at the Training Center at the Bulgarian Academy of Sciences.

During the doctoral studies, the doctoral student may also participate in other courses and seminars at the doctoral level. The courses can be both those corresponding to the scientific direction and thematic focus of the doctoral studies, and those forming

research knowledge and skills. The courses and seminars can be organized by the Institute of Mechanics, the Central Office of the Bulgarian Academy of Sciences, as well as by other scientific organizations and higher education institutions with which the Institute of Mechanics has concluded agreements, including for exchange under the Erasmus+ program.

## **II. Work on the dissertation**

II.1. Scientific research work (preparatory and accompanying activities for the dissertation - research and referencing of literature, etc.; experimental work on the dissertation, etc.)

II.2. Formation of the dissertation (writing a separate part of the dissertation)

## **III. Reporting to scientific forums of results on the topic of the dissertation** (mandatory minimum of 40 credits)

The reports presented are evaluated as follows:

- Report to a scientific seminar of the Institute of Mechanics – 8 credits;
- Report to a national scientific event – 24 credits;
- Report to an international scientific event – 32 credits.

## **IV. Publications of results on the topic of the dissertation** (mandatory minimum of 30 credits)

The credits related to publications of scientific results on the topic of the dissertation are equal to the points for the indicators for professional field 4.5 "Mathematics" from the Regulations on the conditions and procedure for acquiring scientific degrees and for occupying academic positions at the Institute of Mechanics at the Bulgarian Academy of Sciences" as follows:

50 for publ. in Q1 (Web of Science)

40 for publ. in Q2 (Web of Science)

30 for publ. in Q3 (Web of Science)

24 for publ. in Q4 (Web of Science)

20 for publ. in an edition with SJR without IF

12 for publ., referenced and indexed in Web of Science, Scopus, Zentralblatt, MathSciNet, ACM Digital Library, IEEE Xplore or AIS eLibrary

15 for Published chapter of a book or collective monograph

25 for Invention, patent or utility model for which a protected document has been issued in due course

15 for Published patent or utility model application

## **V. Other activities** (study activities, participation in projects, etc.)

The activities under point V are desirable insofar as they build intellectual qualities and practical skills, including teamwork, communicative and pedagogical abilities. The work performed is reported at seminars of the training unit upon acceptance of the annual attestation of the doctoral student. Regular doctoral students describe the progress process in their quarterly reports. The doctoral student is positively attested upon covering the mandatory minimum credits under point I at the end of the training. Failure to meet the minimum requirements under point I may be grounds for the training section to propose to the Scientific Council of the Institute of Mechanics that the doctoral student be expelled from doctoral studies without the right to defend.

The curriculum is in accordance with:

- Higher Education Act;
- Academic Staff Development Act;
- Regulations for the implementation of the Academic Staff Development Act;
- Regulations on the conditions and procedure for acquiring scientific degrees and for occupying academic positions at the Institute of Mechanics of the Bulgarian Academy of Sciences
- Regulations on the activities of the Training Center (TC) and the Academic Council (AC) at the Bulgarian Academy of Sciences (adopted by decision of the Board of the Bulgarian Academy of Sciences on 08.06.2011, supplemented by decisions of the AC of the TC on 16.12.2013, 18.11.2016, 29.10.2018).

This General Curriculum for the training of doctoral students in the doctoral program "Fluid Mechanics" was adopted by the Scientific Council of the Institute of Mechanics-BAS on 15.01.2026 (protocol No. 1).

Approved by:

(Prof. Svetoslav Nikolov, Director of the Institute of Mechanics - BAS)