

Документ подписан простой электронной подписью  
Информация о владельце:  
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**Federal State Autonomous Educational Institution of Higher Education  
Peoples' Friendship University of Russia  
RUDN University**

**Faculty of Physics, Mathematics and Natural Sciences**

(educational division (faculty/institute/academy) as higher education programme developer)

## **INTERNSHIP SYLLABUS**

**Pedagogical training**  
(internship title)

(internship type)

**Recommended by the Didactic Council for the Education Field of:**

**01.04.01 «Mathematics»**  
(field of studies / speciality code and title)

**The student's internship is implemented within the professional education programme of higher education:**

**Functional methods in differential equations and interdisciplinary research /  
Функциональные методы в дифференциальных уравнениях и  
междисциплинарных исследованиях (англ.)**  
(higher education programme profile/specialisation title)

**2023**

## 1. INTERNSHIP GOAL(s)

The goals of pedagogical practice are:

- consolidation and deepening of the theoretical and practical training of students, coupled with reaching a new level of training - the ability to teach another received and well-learned knowledge during the training;
- acquisition by students of practical skills and competencies in one of the possible areas of their future professional activity - teaching;
- acquisition by students of the initial experience of both pedagogical work under the guidance of an experienced teacher, and independent pedagogical work, as well as experience in working in a teaching team.

## 2. REQUIREMENTS FOR LEARNING OUTCOMES

The internship intends to train and guide students to achieve/acquire the following competences development:

*Table 2.1. List of competences that students acquire during the internship*

Competence code	Competence descriptor	Competence formation indicators (within this course)
PC-9	Ability to teach mathematical disciplines and informatics in general educational organizations, professional educational organizations and educational institutions of higher education	PC-9.1. Formation of pedagogical skills and abilities
		PC-9.2. Ability to work and interact with a team
PC-10	Ability to manage the educational and research activities of students	PC-10.1. Formation of organizational and leadership abilities in scientific and pedagogical activities

## 3. INTERNSHIP IN HIGHER EDUCATION PROGRAMME STRUCTURE

The internship refers to the core component of (B2) block of the higher educational programme curriculum.

Within the higher education programme students also master other disciplines (modules) and / or internships that contribute to the achievement of the expected learning outcomes as results of the pedagogical internship.

*Table 3.1. The list of the higher education programme components that contribute to the achievement of the expected learning outcomes as the internship results.*

Competence code	Competence descriptor	Previous courses/modules, internships*	Subsequent courses/modules, internships*
PC-9	Ability to teach mathematical	Function spaces, Additional chapters of	State Examination, Master Thesis Defence

Competence code	Competence descriptor	Previous courses/modules, internships*	Subsequent courses/modules, internships*
	disciplines and informatics in general educational organizations, professional educational organizations and educational institutions of higher education	mathematical modeling, Interdisciplinary term paper	
<b>PC-10</b>	Ability to manage the educational and research activities of students	Mathematical models in economics, Mathematical models in biology and medicine	State Examination, Master Thesis Defence

\* To be filled in according with the competence matrix of the higher education programme.

#### 4. INTERNSHIP WORKLOAD

The total workload of the internship is 12 credits 432 academic hours).

#### 5. INTERNSHIP CONTENTS

*Table 5.1. Internship contents\**

Modules	Contents (topics, types of practical activities)	Workload, academic hours
Module 1. Organization of practice, preparatory stage	Meeting with the head of the practice: <ul style="list-style-type: none"> <li>• definition of the goals and objectives of the practice;</li> <li>• safety briefing;</li> <li>• registration of individual assignments of students for practice.</li> </ul>	6
Module 2. Consultation with the head of practice	<ul style="list-style-type: none"> <li>• Consultation with the head of the practice;</li> <li>• Preparation of the lesson.</li> </ul>	210
Module 3. Conducting classes	Conducting classes under the guidance of an experienced teacher, as well as test work, a colloquium, as well as other forms of control for junior students or schoolchildren	54
Module 4. Consultation with the head of practice	Discussion of the results of the conducted classes with the head of practice, correction of errors, preparation for new classes	144

<b>Modules</b>	<b>Contents (topics, types of practical activities)</b>	<b>Workload, academic hours</b>
Writing an internship report		9
Preparing for defence and defending the internship report		9
<b>TOTAL:</b>		<b>432</b>

\* The contents of internship through modules and types of practical activities shall be FULLY reflected in the student's internship report.

## **6. INTERNSHIP EQUIPMENT AND TECHNOLOGY SUPPORT REQUIREMENTS**

The infrastructure and technical support necessary for the internship implementation include: laboratories and classrooms of S.M. Nikolskii Mathematical institute and other educational departments of RUDN University.

## **7. INTERNSHIP LOCATION AND TIMELINE**

The pedagogical internship can be carried out at the structural divisions of RUDN University or at Moscow-based organisations.

The internship at an external organisation (outside RUDN University) is legally arranged on the grounds of an appropriate agreement, which specifies the terms, place and conditions for an internship implementation at the organisation.

The period of the internship, as a rule, corresponds to the period indicated in the training calendar of the higher education programme. However, the period of the internship can be rescheduled upon the agreement with the Department of Educational Policy and the Department for the Organization of Internship and Employment of RUDN students.

## **8. RESOURCES RECOMMENDED FOR INTERNSHIP**

The list of basic and auxiliary resources necessary for the student to complete the internship is formed by the head of the internship. It is not possible to list all the variety of basic and additional literature in one, necessarily short, document.

### **Software**

TeX typing and layout package for mathematical texts (for example, MikTeX 2.9), modern MS Office and Open Office packages, modern applied mathematical, mathematical-statistical, econometric packages.

### **Internet resources**

To search for the necessary information, students can use the necessary Internet resources, in particular, the resources of the Information and Library Center of RUDN University.

## **9. ASSESSMENT TOOLKIT AND GRADING SYSTEM FOR EVALUATION OF STUDENTS' COMPETENCES LEVEL AS INTERNSHIP RESULTS**

The assessment toolkit and the grading system\* to evaluate the level of competences (competences in part) formation as the internship results are specified in the Appendix to the internship syllabus.

\* The assessment toolkit and the grading system are formed on the basis of the requirements of the relevant local normative act of RUDN University (regulations / order).

### DEVELOPERS:

**Assistant of the Mathematical  
Institute**



**V.V. Liiko**

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position, educational department

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signature

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name and surname.

**Professor of Mathematical  
Institute**



**V.I. Burenkov**

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position, educational department

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signature

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name and surname.

### HEAD OF Educational Department:

**Director of Mathematical Institute**



**A.B. Muravnik**

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position, educational department

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signature

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name and surname.

**HEAD OF  
Higher Education Programme:  
Scientific adviser of Mathematical  
Institute**



**A.L. Skubachevskii**

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position, educational department

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signature

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name and surname.