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**Federal State Autonomous Educational Institution of Higher Education  
PEOPLES' FRIENDSHIP UNIVERSITY OF RUSSIA  
NAMED AFTER PATRICE LUMUMBA  
RUDN University**

**Academy Of Engineering**

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

**Department of Nanotechnology and Microsystem Engineering**

(department realizing the PhD program)

**INTERNSHIP SYLLABUS**

**Pedagogical Training**

(internship type)

Scientific specialty:

**2.2.9 Design and Technology of Instrumentation and Radio Electronic Equipment**

(scientific speciality code and title)

The PhD student's internship is implemented within the PhD programmes:

**Design and Technology of Instrumentation and Radio Electronic Equipment**

(PhD program title)

### 1. INTERNSHIP GOALS

The aim of the Internship is to develop professional competencies through direct participation in pedagogical work, as well as the acquisition of professional competencies necessary to work in the professional sphere.

### 2. REQUIREMENTS FOR LEARNING OUTCOMES

The main objectives of Pedagogical practice are:

- study methods and techniques of teaching and education in higher education;
- learn to conduct classes in technical disciplines;
- master the primary skills of modeling classes, drawing up programs and projects, planning individual classes and predicting a special course, choosing an effective organizational strategy.

### 3. INTERNSHIP WORKLOAD

The overall workload of the internship is 6 credits (216 academic hours).

### 4. INTERNSHIP CONTENTS

Stages of internship	Content of the units (topics)	Workload, acad. hours
<b>3 semester</b>		
Section 1: Organisational and preparatory	Introductory meeting: giving instructions on the forms, types of work during pedagogical training	1
	A safety briefing in the workplace (laboratory and/or production)	2
Section 2: Substantive	Familiarisation with the training activities of the department	8
	Development of educational and methodological materials	12
	Carry out the lessons and implement the training tools developed	40
	Keeping the practice diary	2
Section 3: Intermediate certification	Editing the practice report	26
	Submitting and defending the practice report	10
<b>4 semester</b>		
Section 1: Organisational and preparatory	Introductory meeting: giving instructions on the forms, types of work during pedagogical training	1
	A safety briefing in the workplace (laboratory and/or production)	2
Section 2: Substantive	Familiarization with the educational work of the department	8
	Development of educational and methodological materials	16
	Carry out the lessons and implement the training tools developed	50
	Keeping the practice diary	2
Section 3. Intermediate certification	Editing the practice report	26
	Submitting and defending the practice report	10
<b>TOTAL:</b>		<b>216</b>

## 5. INTERNSHIP EQUIPMENT AND TECHNOLOGY SUPPORT REQUIREMENTS

To successfully conduct Pedagogical practice you need: a workplace, a computer, a printer, a library collection.

To process the materials collected by the graduate student during the internship, access to computer classes is available.

The library fund must provide graduate students with basic literature in the amount of 0.5 copies per person.

Also, graduate students are given the opportunity to use the Internet in an educational institution.

## 6. INTERNSHIP LOCATION AND TIMELINE

Internship can be carried out both in structural subdivisions of RUDN University or in organizations of Moscow (stationary), and at bases located outside of Moscow (exit).

Conducting internship on the basis of an external organization (outside RUDN University) is carried out on the basis of an appropriate agreement, which specifies the terms, place and conditions for performing scientific research in the base organization.

The deadlines for the internship implementation correspond to the period indicated in the calendar academic schedule of the postgraduate program. Internship dates can be adjusted in coordination with the Department of Doctoral Studies of the RUDN University.

## 7. RESOURCES RECOMMENDED FOR INTERNSHIP

### *Main readings:*

1. Development of professionalism of higher school teacher. textbook. V.S. Agapov [et al.]-M.: Publishing house of RAGS, 2017. [http://lib.rudn.ru/MegaPro2/UserEntry?Action=Rudn\\_FindDoc&id=470098&idb=0](http://lib.rudn.ru/MegaPro2/UserEntry?Action=Rudn_FindDoc&id=470098&idb=0).

2. Miroshnichenko N. A., Stefanov S. A. To help a young teacher. methodical manual / N. A. Miroshnichenko, S. A. Stefanov.-Odessa: Yuridichna literatura, 2003.-92 p.

3. Skok G.B., Lygina N.I. How to design an educational process for a course: Textbook. Ed. second revised and supplemented. - Moscow: Pedagogical Society of Russia. 2017. - 96c. [http://lib.rudn.ru/MegaPro2/UserEntry?Action=Rudn\\_FindDoc&id=470098&idb=0](http://lib.rudn.ru/MegaPro2/UserEntry?Action=Rudn_FindDoc&id=470098&idb=0)

4. Lapaeva M.G., Lapaev S.P.; Ministry of Education and Science of the Russian Federation, Federal State Budgetary Educational Institution of Higher Education "Orenburg State University". - Orenburg: Orenburg State University, 2017. - 249 p.: ill. - Bibliography in the book - ISBN 978-5-7410-1791-3; [Electronic resource]. - URL: <http://biblioclub.ru/index.php?page=book&id=485476> (06.05.2018).\.

5. Education quality management: Practice-oriented monograph and methodological guide / Edited by M.M. Potashnik. M., 2016. URL: <http://biblioclub.ru/index.php?page=book&id=230540>.

### *Additional readings:*

Basic and additional literature from the work program of the discipline in which the graduate student participates.

### *Internet sources:*

EBS of RUDN University and third-party EBS, to which university students have access based on concluded agreements:

- RUDN Electronic Library System (RUDN ELS) <http://lib.rudn.ru/MegaPro/Web>
- EL "University Library Online" <http://www.biblioclub.ru>
- EL "Yurayt" <http://www.biblio-online.ru>
- EL "Student Consultant" [www.studentlibrary.ru](http://www.studentlibrary.ru)
- EL "Lan" <http://e.lanbook.com/>

– EL "Trinity Bridge"

*Databases and search engines:*

- electronic foundation of legal and normative-technical documentation <http://docs.cntd.ru/>

- Yandex search engine [https:// www .yandex.ru/](https://www.yandex.ru/)

- Google search engine <https://www.google.ru/>

*Educational and methodological materials for internship:*

Instructions on labor protection and fire safety during practices [indicate the name and number of the instructions in accordance with those approved by your PMO] (initial briefing).

Guidelines for students to fill out a diary and prepare a report on practice.

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

Assessment toolkit and a grading system to evaluate the level of competences (competences in part) formation as the course results are specified on the TUIS platform.

#### **DEVELOPERS:**

Assistant Professor

 M.O. Makeev

#### **HEAD OF THE DEPARTMENT**

Assistant Professor



S.V. Popov