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# **ENGINEERING ACADEMY**

(name of the main educational unit - program developer)

**Department of Nanotechnology and Microsystem Engineering** 

(name of the basic educational unit - program developer)

# **PRACTICE PROGRAM**

Pedagogical practice

(name of practice)

Scientific specialty: 2.2.9 Design and technology of instrumentation and radioelectronic equipment

(speciality code and title)

Practical training of students is carried out as part of the postgraduate program:

Design and technology of instrumentation and radioelectronic equipment

(higher education programme profile/specialisation title)

### 1. PURPOSE OF THE PRACTICE

The purpose of conducting Pedagogical practice is to master the pedagogical skills of conducting certain types of training sessions and developing educational and methodological materials in academic disciplines of a technical profile.

# 2. REQUIREMENTS FOR LEARNING RESULTS AFTER COMPLETING PRACTICE

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. SCOPE OF PRACTICE

The total labor intensity of teaching practice is 6 credit units (216 academic hours).

| Name of section of the practice                            | Section content (topics, practical activities)                    | Labour input,<br>hours per week |
|--|---|---------------------------------|
| 3 semester   |   |                                 |
| Section 1: Organisational and preparatory                  | Receipt of an individual practical assignment from the supervisor | 2                               |
|  | 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: Reporting                                       | Preparing the presentation of the practice                        | 4                               |
|  | Intermediate assessment (preparation and presentation)            | 2                               |
|  | 4 semester  |                                 |
| Section 1: Organisational and preparatory                  | Receipt of an individual practical assignment from the supervisor | 2                               |
|  | 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  | 60                              |
|  | Keeping the practice diary  | 2                               |
| Preparation of a practice report                           |   | 9                               |
| Preparation for defence and defence of the practice report |   | 9                               |
|  | TOTAL:  | 180                             |

# 4. CONTENT OF PRACTICE

#### 5. MATERIAL AND TECHNICAL SUPPORT OF PRACTICE

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. WAYS OF CONDUCTING PRACTICE

Pedagogical practice can be carried out in the structural divisions of RUDN University or in educational institutions of higher education in Moscow (stationary).

Conducting internships 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 of the internship in the base organization.

The duration of the internship corresponds to the period specified in the academic calendar of the postgraduate program. The timing of the internship can be adjusted in agreement with the educational policy department and the department for organizing internships and promoting the employment of graduates.

#### 7. EDUCATIONAL, METHODOLOGICAL AND INFORMATION SUPPORT OF PRACTICE

Main readings:

1.Development of professionalism of higher school teacher. textbook. V.S. Agapov[etal.].-M.:PublishinghouseofRAGS,2017.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 litera, 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

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
- 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/

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

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 MATERIALS AND POINT-RATING SYSTEM FOR ASSESSING THE LEVEL OF COMPETENCIES BASED ON THE RESULTS OF COMPLETING PRACTICE

Evaluation materials and a point-rating system for assessing students based on the results of teaching practice are presented in the appendix to this practice program.

### **DEVELOPERS:**

Assistant Professor

M.O. Makeev

#### HEAD OF THE BASIC EDUCATIONAL UNIT

Assistant Professor

S.V. Popov