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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 MECHANICS AND CONTROL PROCESSES

(department realizing the PhD program)

INTERNSHIP SYLLABUS

Pedagogical Training

(internship type)

Scientific specialty:

1.2.1. Artificial intelligence and machine learning

(scientific speciality code and title)

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

Artificial intelligence and machine learning

(PhD program title)

1. INTERNSHIP GOAL(s)

Pedagogical practice is aimed at the formation and development of competencies in graduate students in accordance with the level of education and professional standard; development of teaching skills in the field of theoretical mechanics, machine dynamics and related areas of technical knowledge in higher education; acquisition of skills of work in the scientific and pedagogical team.

The main tasks of pedagogical practice are:

- to study the methods and techniques of teaching and education in higher education;
- learn how 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 organization strategy.

2. REQUIREMENTS FOR LEARNING OUTCOMES

As a result of completing the “Pedagogical Practice”, the graduate student must:

Know modern methods, approaches, trends in teaching and education in higher education.

Be able to conduct practical and seminar classes in specialized disciplines for students.

Possess primary skills in modeling classes, drawing up programs and projects, planning individual classes and developing an educational course, as well as an effective strategy for organizing classes.

3. INTERNSHIP WORKLOAD

The total workload of the internship is 5 credits (180 academic hours).

4. INTERNSHIP CONTENTS

Stages of internship	Content of the units (topics)	Workload, acad. hours
3 term		
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 mechanics and mechatronics department	8
	Develop training materials	12
	Carry out the lessons and implement the training tools developed	40
	Keeping the Internship diary	2
Section 3: Reporting	Preparing the presentation of the internship	4
	Intermediate assessment (preparation and presentation)	2
4 term		

Stages of internship	Content of the units (topics)	Workload, acad. hours
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 mechanics and mechatronics department	8
	Develop training materials	16
	Carry out the lessons and implement the training tools developed	60
	Supervise the supervision of the traineeship	2
	Keeping the Internship diary	9
Preparation for defence and defence of the internship report		9
TOTAL:		180

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

5. INTERNSHIP EQUIPMENT AND TECHNOLOGY SUPPORT REQUIREMENTS

The place of internship shall comply with the current sanitary and epidemiological requirements, fire safety regulations and standards of health protection of the students.

It requires classrooms that meet the safety requirements for academic work, if necessary, a computer room with workstations that provide Internet connection, as well as classrooms with multimedia equipment.

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:

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.

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

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:

1. RUDN HEO (higher education level - training of higher qualification) in the field of training 01.06.01 Mathematics and Mechanics

2. local Acts of PFUR

3. Working programs of disciplines of the Department of Mechanics and Mechatronics in the fields of study 27.03.04 "Management in technical systems", 27.04.04 "Management in technical systems".

Internet sources

1. Electronic libraries (EL) of RUDN University and other institutions, to which university students have access on the basis of 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"

2. 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/>

- Scopus abstract database <http://www.elsevierscience.ru/products/scopus/>

The training toolkit and guidelines for a student to do an internship, keep an internship diary and write an internship report*:

1. Safety regulations to do the internship (safety awareness briefing).

2. Machinery and principles of operation of technological production equipment used by students during their internship; process flow charts, regulations, etc. (if necessary).

3. Guidelines for keeping an internship diary and writing an internship report.

*The training toolkit and guidelines for the internship are placed on the internship page in the university telecommunication training and information system under the set procedure.

8. ASSESSMENT TOOLKIT AND GRADING SYSTEM* FOR EVALUATION OF 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:

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Professor of DMCP		A.Yu. Alekseev
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