

Yuri Fedkovych Chernivtsi National University
Institute of Physical Engineering and Computer Science
Department of Theoretical Physics and Computer Modeling

SYLLABUS
compulsory component of the educational and scientific program

ASSISTANT PEDAGOGICAL PRACTICE

Educational and Scientific Program "Physics and Astronomy"

(program name)

Specialty 104 "Physics and Astronomy"

(specify: code, name)

Field of knowledge 10 "Natural sciences"

(specify: code, name)

Level of higher education: third (educational and scientific)

Educational and Scientific Institute of Physical, Technical and Computer Sciences

(name of the faculty / institute where specialists are trained according to the specified educational and professional program)

Language: Ukrainian, English

Developer: Holovatsky Volodymyr Anatolievych,

prof. Department of Theoretical Physics and Computer Modeling, doctor of science.

(specify authors (teacher (s)), their positions, academic degrees, academic titles)

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Number of credits: 6

Forms of educational activity:

passive practice (attending lectures, seminars, laboratory / practical classes,
reading the documentation),

active practice (conducting lectures, seminars, laboratory / practical classes,
independent work).

Form of final control: credit test

1. BASIC PROVISIONS

Pedagogical (assistant) practice (hereinafter - Practice) in the system of higher education at the third educational and scientific level is a component of professional training for scientific and pedagogical activities, a type of practical activity of graduates of the degree of Doctor of Philosophy (hereinafter - Postgraduate) in the institution of higher education, including the teaching of special disciplines, the organization of educational activities of students, scientific and methodological work.

Internship includes educational and methodical work (preparation for classes, methodical work, attending and analyzing classes, attending consultations) and classroom workload (lectures, seminars, practical (laboratory) classes).

When attending classes of teachers of relevant disciplines, graduate students should get acquainted with different ways of structuring and presenting educational material, ways to enhance educational activities, features of professional rhetoric, with different ways and methods of evaluating educational activities.

The duration and timing of the Internship are defined in the curricula for the preparation of the Doctor of Philosophy (PhD) in the relevant specialty.

The total (recommended) amount of the Practice is 120 hours (4 credits).

The organizer of the Postgraduate Practice is the department responsible for the training of Postgraduate Students.

The general management and control over the completion of the Postgraduate Practice is entrusted to the head of the department responsible for the training of Postgraduate Students.

The place of the Internship, terms, its content and form are planned by the head of the department and the research supervisor, which the Postgraduate Student reflects in the individual curriculum. Postgraduate students undergo internships at the departments of faculties / institutes of Yuri Fedkovych Chernivtsi National University.

2. PURPOSE AND TASKS OF PEDAGOGICAL (ASSISTANT) PRACTICE

- The purpose of the Postgraduate Practice is to acquire skills and abilities of educational and methodical and scientific work.
- The objectives of the Practice are:
 - direct acquaintance with the forms and methods of teaching disciplines used at the relevant faculty / institute, as well as their practical mastery;
 - education of graduate students' creative approach to educational and methodical work, scientific work, the formation of the need for self-improvement, training;
 - acquisition of professional qualities of the future teacher - the ability to prepare lecture material using the latest achievements in a particular field of science, clearly, easily, logically and consistently teach this material to students, lead the audience, etc. ;
 - developing the ability to critically evaluate lectures and seminars of colleagues and draw conclusions based on them on the organization of their own teaching work.
- In the process of passing the Internship Postgraduate students must master and know:
 - organization of the educational process in a higher education institution;
 - structure and content of teaching activities;
 - methods of preparation and conduct of classes, organization of independent and individual work of students;
 - basics of educational and methodological activities in higher education institutions;
 - psychological aspects of learning and creative activity, etc.
- During the Internship Postgraduate students must master the following competencies:
 - structuring and transforming scientific knowledge into educational material;
 - systematization of educational and upbringing tasks;
 - methods and means of interactive learning, preparation of situational tasks, test tasks, etc.;
 - application of the latest educational technologies;
 - develop a program, working program of a professional discipline;
 - determine the structural elements of lectures, seminars in accordance with the established purpose;
 - develop methodological materials for all types of educational work; draw up documentation on the planning and results of teaching activities, etc.

Competences and program results of practice.

General competencies:

GC7. Interpersonal skills related to the ability to interact with other people and work in a team.

GC9. Ability to present orally and in writing and discuss the results of research and / or innovative developments in Ukrainian and English, including with experts in other fields.

Professional competencies:

PC8. Ability to organize the educational process and conduct classes in physical and astronomical disciplines in higher education

Program learning outcomes:

PLO4. Ability to develop and present the results of research in scientific and popular science contexts, orally and in writing, in the form of scientific seminars, conferences.

PLO6. Ability to conduct scientific discussions with specialists and non-specialists on research results, fundamental and applied problems of physics in Ukrainian and foreign languages, qualified to reflect the results of research in scientific publications in leading international scientific journals.

PLO8. Ability to lead specialized scientific seminars and conduct scientific discussions in accordance with professional ethics.

PLO13. Deeply understand the general principles and methods of natural sciences, as well as the methodology of scientific research, apply them in their own research in physics and teaching.

Realization of the purpose and tasks is provided by the accurate organization of Practice, observance of the basic requirements of Regulations on practice.

3. CONTENT OF PEDAGOGICAL (ASSISTANT) PRACTICE

Educational and methodical work is the essence of pedagogical (assistant) practice, its main purpose. It is in the course of educational and methodical work that the main tasks of the Practice are realized, which consist in the formation of postgraduate students' teaching skills.

The educational and methodical work of Postgraduate Students during the Internship has two components that complement each other: passive practice and active practice (classroom). Provided that the total amount of assistant practice is 180 hours, 80 hours are allocated for passive practice and 50 hours for active practice.

Passive practice in most cases precedes active (classroom). It consists of attending lectures, seminars (practical / laboratory) classes, consultations conducted by the teacher of the department; participation in educational and methodical work of the department. Passive practice involves the development of theoretical materials for the preparation and conduct of classes, work in the library, preparation of texts of lectures and methodological developments of seminars, practical (laboratory) classes to be conducted.

Active (classroom) practice is the main in the whole process of the Practice, because it is in the course of active practice that the teaching abilities of Postgraduate Students are identified and consolidated. Active practice includes: independent lectures and seminars (practical / laboratory) classes; conducting consultations; participation in the methodological work of the department responsible for the training of graduate students; participation in assessing the quality of different types of student work.

Before the beginning of active practice Postgraduate students provide the head of the Practice with texts of lectures and methodical development of seminar (practical / laboratory) classes. The volume of the lecture is 20-25 pages of text, 3-5 pages of methodological developments. After coordination of the texts of lectures and methodical developments with the head of the Postgraduate Practice, they are allowed to conduct classes independently.

The teacher and other postgraduate trainees must be present at the test classes. At the end of the class there is a discussion in which all participants participate. During the discussion, remarks are made on the theoretical (regarding the content of the lecture, seminar, practical lesson) and methodological (quality of presentation, control over the audience, student activity, use of technical teaching aids, etc.) plan. Postgraduate interns record their comments in writing in a review, the teacher evaluates each lesson and provides his review with an assessment.

The recommended amount of active assistant practice is 50 hours, of which:

- conducting 6 lectures - 12 hours;
- conducting 10 practical (laboratory, seminar) classes - 20 hours;
- consultations - 6 hours;
- individual work with students, management of scientific student research - 12 hours.

The structure of assistant pedagogical practice

Section	Name topics	hours	Type of lesson (hours)			
			Lectures	Practical and laboratory	Individual work with students, management of scientific research	Independent work
1	2	4	5	6	7	8
1.	Drawing up an individual calendar plan of the origin of pedagogical practice	4	0	0	0	4
2.	Organization of the pedagogical process in a modern higher school. Acquaintance with educational and methodical documentation and software and methodical support of educational disciplines	6	0	0	0	6
3.	Preparation by students of educational and methodical documentation for conducting practical (seminar) classes. Attending practical and seminar classes of teachers (departments, institutes)	32	0	16	0	16
4.	Organization of distance learning in the Moodle system	8	0	0	0	8
5.	Preparation for lectures. Attending lectures by teachers of the department and the institute	32	26	0	0	6
6.	Practical, laboratory or seminar classes	42	0	20	4	18
7.	Lectures	30	12	0	2	16
8.	Educational activities with students	6	0	0	0	6
9.	Individual work with students, management of scientific student research. Acquaintance with the organization and defense of master's theses	16	0	0	12	4
10.	Preparation of the final report on pedagogical practice	4	0	0	0	4
Total:		180	38	36	18	88

4. PROCEDURE FOR ORGANIZATION AND ORGANIZATION OF PEDAGOGICAL (ASSISTANT) PRACTICE

Postgraduate students undergo the Internship in accordance with the curriculum for the preparation of the Doctor of Philosophy (PhD) specialty 104 "Physics and Astronomy" in the first and second year of training (in the second and third semester).

The main bases for the Practice are the departments of the Institute of Physical, Technical and Computer Sciences, which teach disciplines in the relevant specialty. If necessary, Postgraduate

Students can take an Internship in other educational institutions in agreement with the department responsible for the training of Postgraduate Students.

The general management and control over the completion of the Postgraduate Practice is entrusted to the head of the department responsible for the training of Postgraduate Students.

The direct supervision and control over the implementation of the Practice Plan by the Postgraduate Student is carried out by his / her supervisor, who:

- provides a clear organization, planning and accounting of the results of the Practice (in the individual curriculum indicates the dates of classes, academic group, topic, type of classes);
- approves the general plan-schedule of the Practice, its place in the system of individual planning of the Postgraduate Student's work;
 - defines disciplines, study groups for the Practice at the educational and qualification level "Master", "Bachelor";
 - provides methodological assistance in planning and organizing the teaching activities of the Postgraduate Student;
 - controls the activities of the trainee, attending classes and other types of his work with students, takes measures to eliminate shortcomings in the organization of the Practice;
 - prepares a review of the Internship.

The final stage of practice is the preparation of the Report on pedagogical (assistant) practice and its approval at a meeting of the department responsible for the training of graduate students.

The Postgraduate Student submits the report and the minutes of the meeting of the relevant department on its approval to the Department of Postgraduate and Doctoral Studies. These documents are kept in the personal file of the graduate student and are considered during his certification for the academic year.

5. DOCUMENTS OF PEDAGOGICAL (ASSISTANT) PRACTICE

- The Practice documents determine the content of the educational process at different stages of the Practice, the basic requirements for trainees and contain forms of control over their implementation. The documents of the Internship include: minutes of meetings of the departments, reports of graduate students on the Internship, the response of the head.
- Protocols of relevant decisions of the department contain the distribution of graduate students among teachers - heads of practice, operational control over the practice, the results of discussion and evaluation of reports of trainees.
- Trainees' reports are the main reporting document (Appendix 2). The report on the pedagogical (assistant) practice contains:
 - diary, which records all forms of work during the Practice (Appendix 1);
 - texts of lectures given by the trainee;
 - methodical development of relevant seminar (practical / laboratory) classes;
 - response of the head of the Practice;
 - recommendations for improving the organization and conduct of practice.

6. EVALUATION OF RESULTS OF PEDAGOGICAL (ASSISTANT) PRACTICE

All tasks performed by the trainee are subject to differentiated assessment by the head of the Practitioner. Lectures and seminars (practical / laboratory) classes are evaluated both in terms of content and adherence to teaching methods. Assessments are entered in the Practice Diary by the Practitioner. The final generalized assessment of the Practice is approved on the basis of an oral and written report at a meeting of the department responsible for the training of graduate students. It should take into account the level of performance of the Practice and the content of the submitted documents.

Graduate students, whose work is recognized as unsatisfactory, are obliged, according to the decision of the academic council of the faculty / institute, to repeat the Internship without interruption from classes.

Rating scale: national and ECTS

The sum of points for all types of educational activities	Grade ECTS	Grade on a national scale	
		for the exam	For credit test
90 – 100	A	excellent	Credited
80-89	B	good	
70-79	C		
60-69	D	satisfactory	
50-59	E		
35-49	FX	unsatisfactory with the possibility of retaking	Noncredited with the possibility of retaking
0-34	F	unsatisfactory with mandatory re-study of the discipline	Noncredited with mandatory re-study of the discipline

References

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3. Guziy NV Pedagogical professionalism: historical-methodological and theoretical aspects: monograph / NV Guziy. - Kyiv: MP Drahomanov National Pedagogical University, 2004. - 243 p.
4. Kaplinsky VV Methods of teaching in high school: Textbook / VV Kaplinsky. - Vinnytsia: LLC "Niland LTD", 2015 - 224p.
5. Methods of teaching in high school: a textbook / OV Malykhin, IG Pavlenko, OO Lavrentyev, GI Matukov. - Kyiv: KNT, 2014. - 262 p.
6. The art of being a teacher: Practice. way. / A. Brinkley, B. Desante, M. Phlegm and others. / for ed. OI Сидоренка. - Kyiv: Training and Methodological Center "Consortium for Improving Management Education in Ukraine". - 2003. - 144 p.
7. OV Malykhin, IG Pavlenko, OO Lavrentyeva, GI Matukova, Methods of teaching in higher school: textbook. - Kryvyi Rih: Daifi, 2010. - 270 p.
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9. Fitsula MM Pedagogy of higher education: Textbook. way. [2nd ed., Supplemented] / MM Fitsula - K .: "Akademvydav", 2014. - 456 p.