



Fundamentals of teaching
Work program of the educational component
(Syllabus)

Details of the educational component

Higher education level	Second (Master's)
Field of Knowledge	<i>G - Engineering, Manufacturing and Construction</i>
Speciality	<i>G11 "Mechanical Engineering"</i>
Educational program	OPP "Engineering of Innovative Industry Equipment Engineering of innovative industrial equipment
Status of the educational component	<i>Mandatory</i>
Form of study	<i>full-time (daytime)</i>
Year of preparation, semester	<i>1st year, autumn semester</i>
Scope of the educational component	<i>2,0 (60)</i>
Semester Control/ control measures	<i>Passed</i>
Class schedule	<i>2 hours per week (1 hour of lectures and 1 hour of practical classes)</i>
Language of instruction	<i>Ukrainian</i>
Information about the course leader / teachers	Lectures: Assoc., Ph.D., Assoc. Kazak Iryna Oleksandrivna http://intellect.kpi.ua/profile/kio69 Practical classes: Assoc. Prof., Ph.D., Assoc. Prof. Kazak Iryna Oleksandrivna
Course placement	<i>Sikorsky Platform</i>

Program of the educational component

1. Description of the educational component, its purpose, subject of study and learning outcomes

Teaching is a purposeful type of activity carried out by a teacher, organizer of the pedagogical process; This is an active process, because in its implementation they try not only to transfer certain knowledge to the student, but also to develop his desire and ability to acquire new knowledge and experience.

The work program of the educational component "Fundamentals of Teaching" is compiled in accordance with the educational and professional program "Engineering of innovative industry equipment for full-time training of masters in the field of knowledge G - "Engineering, Production and Construction" in the specialty G11 "Mechanical Engineering".

The subject of the educational component is familiarization with the basics of the educational process, the peculiarities of methods of conducting various types of classes, methods and means of teaching and control, and the essence of the latest pedagogical technologies of teaching in higher education.

1.1. The purpose of the educational component is to participate in the formation of competencies:

- ability to learn and master modern knowledge (GC 02);
- ability to generate new ideas (creativity) (GC 06);
- ability to identify, pose and solve problems (GC 07);
- ability to make reasonable solutions to the problem (GC 08);
- Ability to develop and implement plans and projects in the field of industrial engineering and related activities, to carry out relevant entrepreneurial activities (SC 05).

1.2 In accordance with the requirements of the educational program, students, after mastering the educational component "Fundamentals of Teaching", must demonstrate the program learning outcomes:

- to search for the necessary scientific and technical information in available sources, in particular, in a foreign language, to analyze and evaluate it (PRN 06).

2. Pre-requisites and post-requisites of the discipline (place in the structural and logical scheme of training according to the relevant educational program)

The educational component "Fundamentals of Teaching" is preceded by the study by students of such educational components as: "Intellectual Property and Patent Science", "Fundamentals of Engineering and Technologies of Sustainable Development". The educational component "Fundamentals of Teaching" provides the educational component "Master's thesis".

3. Content of the discipline

Topic 1. Introduction. Subject, tasks, main categories and current problems of teaching methods in higher school.

The subject and tasks of teaching methods in higher school. The main categories of the technique teaching in higher education (method and technique, skills and abilities). Actual problems of teaching methods in higher school.

Topic 2. Improvement of the content of academic disciplines in the context of the methodology of their teaching.

Components of the content of education in the context of the methodology of their teaching. Didactic requirements for the formation of the content of academic disciplines. Reliance on the ideas of J. A. Comenius in the organization of assimilation of the content of education. Ways to improve the content of education.

Topic 3. Methods of preparing and conducting a lecture in higher school.

Lecture as an organizational form of education in a higher education institution, its types and functions. Activation of students' attention to lectures. Techniques that help keep students' attention to the content of the lecture. Public speaking skills that help the teacher ensure the effectiveness of the lecture. The ability to present information clearly and accessibly. The ability to diversify the content of the lecture with facts, examples, comparisons that activate its perception. The ability to monitor the presentation of information and the reaction of listeners.

Topic 4. Methods of conducting practical and seminar classes in higher school.

Didactic goals and functions of practical classes. Use in practical classes modern innovative technologies. Various forms of tasks for practical lessons. Map of the assessment of a practical (seminar) lesson. Scale of assessments of the quality of seminar classes.

Topic 5. Methods of solving pedagogical situations in practical classes in higher school.

Pedagogical situations as a component of the educational process and their varieties. Methodological recommendations for solving pedagogical situations. Typical mistakes and pedagogically inexpedient actions of the teacher in a problem situation.

Topic 6. Methods of conducting laboratory classes.

Methods of conducting laboratory classes. Types of laboratory classes. and their features.

Topic 7. Methodology for assessing knowledge, skills and abilities (taking exams and tests).

Organization of exams and tests. Assessment card for the organization of exams and tests.

Topic 8. Features of the organization of course and diploma design. Organization of practices for training future specialists.

Features of the organization of course and diploma design. Organization of practices for training future specialists.

Topic.9. Organization of independent and individual work of students in a higher education institution.

Organization of independent and individual work of students in a higher education institution.

4. Learning materials and resources

Basic literature

1. *Methods of Teaching in Higher School: Textbook* / V. V. Kaplinsky. – Vinnytsia: Niland LTD LLC, 2015 – 224 p.
2. *Nagaev V. M. Methods of teaching in higher school* / Khark. National. Agrarian. Univ. V. V. Dokuchaeva.: study. Manual. for students. higher. Teaching. Institutions. — Kyiv: ChP.- 2007. - 217 p.
3. *Lectures on Pedagogy of Higher School: Teaching. Manual. / For order. V. I. Lozova.* – Kharkiv: "OVS", 2006. – 496 p.
4. *Pedagogy of Higher School: Teaching. Manual. / M. M. Fitsula.* – Kyiv: Akademvydav, 2014. -456 p.
5. *Pedagogy of Higher School: Teaching. Manual. / Z. N. Kurlyand, R. I. Khmelyuk, A. V. Semenova et al.; For a row. Z. N. Kurland.* – Kyiv: Znannya, 2007. -495 p.
6. *Sikorsky P. I. Credit-modular technology of learning: Teaching. manual.* — Kyiv: Vyd-vo Evropep. UNTU, 2004. — 127 p.
7. *Vitvytska S. S. Fundamentals of Pedagogy of Higher School: Method. Manual.* – Kyiv: Study Center. Literature, 2003. – 316 p.
8. *Stynska V.V. Methods of teaching in higher school. Methodical recommendations / V.V. Stynska.* – Ivano-Frankivsk, 2016. – 65 p.
9. *Fundamentals of Teaching. Lecture Notes on Academic Discipline [Electronic resource] : teaching aids for the preparation of full-time masters, who study in the specialty 131 – "Applied Mechanics", educational and professional program "Engineering of Packaging and Packaging Equipment" / Igor Sikorsky Kyiv Polytechnic Institute; compiled by I. O. Kazak. – 2nd ed., revised and supplemented – Electronic text data (1 file: 2.76 MB). – Kyiv: Igor Sikorsky Kyiv Polytechnic Institute, 2025. – 201 p. – Title from the screen. URL: <https://ela.kpi.ua/handle/123456789/73811>*
10. *Fundamentals of Teaching. Practicum on Academic Discipline [Electronic resource] : teaching aids for the preparation of full-time masters, who study in the specialty 131 – "Applied Mechanics", educational and professional program "Engineering of Packaging and Packaging Equipment" / Igor Sikorsky Kyiv Polytechnic Institute; compiled by I. O. Kazak. – 2nd ed., revised*

and supplemented – Electronic text data (1 file: 3.84 MB). – Kyiv: Igor Sikorsky Kyiv Polytechnic Institute, 2025. – 69 p. – Title from the screen. UR L: <https://ela.kpi.ua/handle/123456789/73812>

Further reading

1. Rezvan O. *Methods of teaching in higher school* / O.O. Rezvan. – Kharkiv, KhNADU: "Miskdruk", 2012. – 152 p.
2. Slepkan Z. *Scientific Principles of the Pedagogical Process in Higher School* / Z. Slepkan. – Kyiv: NPU, 2005. – 239 p. 59
3. Turkot T. *Pedagogy of Higher School: Textbook for Students of Higher Educational Institutions* / T.I. Turkot. – Kyiv: Condor, 2011. – 628 p.
4. Ushkarenko V. *Organization of students' independent work* / V.O. Ushkarenko, N.D. Smolienko, I.V. Osadchuk, T.I. Vinogradova. – Kherson: Ailant, 2005. – 96 p.
5. Fitsula M. *Pedagogy of Higher School: Textbook* / M.M. Fitsula. – Kyiv: Akademvydav, 2006. – 351 p.
6. Tsekhmistrova G. *Fundamentals of Scientific Research: Textbook* / G.S. Tsekhmistrova. – Kyiv: Slovo Publishing House, 2004. – 240 p.
7. Yaksa N. *Fundamentals of pedagogical knowledge: teaching. manual* / N. Yaksa. – Kyiv: Znannya, 2007. – 357 p.
8. Belova O. K. *Methods of Design and Organization of Laboratory Work: Teaching Aids for Eng.- Pedagogical Specialists.* / O. K. Belova, O. E. Kovalenko. – Kharkiv: UIPA, 2003. – 50 p.

Information resources on the Internet

1. Syllabus of the educational component "Fundamentals of Teaching" for masters in the specialty G11 "Mechanical Engineering", in the system of the electronic campus of Igor Sikorsky Kyiv Polytechnic Institute. Igor Sikorsky, <http://login.kpi.ua/> "Campus";
2. Synopsis of lectures on the discipline "Theory and Methods of Teaching in Higher School" on the website of the department: Website of the Department of Higher Education <https://cpsm.kpi.ua/metodichni-rozrobki/dlia-phd/5733-teoriia-i-metodyka-vykladannia-v-vyshchii-shkoli.html>
3. Methodical instructions on the discipline "Theory and Methods of Teaching in Higher School" for the implementation of tasks from practical classes and independent work on the website of the department: Website of the Department of KhPSM <https://cpsm.kpi.ua/metodichni-rozrobki/dlia-phd/5733-teoriia-i-metodyka-vykladannia-v-vyshchii-shkoli.html>
4. Electronic Archive of KPI <https://ela.kpi.ua/>
5. Sikorsky distance learning platform <https://sikorsky-distance.kpi.ua/>
6. It is possible to conduct On-Line classes using the Zoom platform.

5. Methods of mastering the educational component

Lectures

Lectures are aimed at:

- providing modern, holistic, interdependent knowledge on the educational component "Fundamentals of Teaching", the level of which is determined by the target setting for each specific topic;
- providing creative work of masters in the course of the lecture together with the teacher;
- education of professional and business qualities in masters and the development of independent creative thinking in them;
- formation of the necessary interest in masters and providing direction for independent work;
- reflection of methodological processing of the material (highlighting the main provisions, conclusions, recommendations, clear and adequate to their formulation);
- use of visual materials for demonstration, combining, if possible, them with the demonstration of results and samples;
- teaching the materials of the discipline in a clear and high-quality language in compliance with structural and logical connections, explaining all newly introduced terms and concepts;
- accessibility for perception by this audience.

№ sala ry	Title of the lecture topic and list of main questions	Hours
1	2	3
1	Lecture 1. Topic 1. Introduction. Subject, tasks, main categories and current problems of teaching methods in higher school. The subject and tasks of teaching methods in higher school. The main categories of teaching methods in higher education (method and technique, skills and abilities). Actual problems of teaching methods in higher school. References: [p. 1, 4, 5, 6, 9, add. 1, 5, 7]. <u>Tasks for the SRS:</u> Study of the lecture material. References: Characteristics of the main categories of higher education [Basics 1, 4, 5, 6, 9, Add. 1, 3, 5 7].	2
2	Lecture 2. Topic 2. Improvement of the content of academic disciplines in the context of the methodology of their teaching. Components of the content of education in the context of the methodology of their teaching. Didactic requirements for the formation of the content of academic disciplines. Reliance on the ideas of J. A. Comenius in the organization of assimilation of the content of education. Ways to improve the content of education. References: [Foundations 1, 3, 9, Additions 1, 5]. <u>Tasks for the SRS:</u> Study of the lecture material. References: Features of the components of the content of education in the context of the methodology of their teaching [Basics 1, 3, 9, Appendix 1, 5].	2
3	Lecture 3. Topic 3. Methods of preparing and conducting a lecture in higher school. Lecture as an organizational form of education in a higher education institution, its types and functions. Activation of students' attention to lectures. Techniques that help keep students' attention to the content of the lecture. The ability to present information clearly and accessibly. The ability to diversify the content of the lecture with facts, examples, comparisons that activate its perception. Ability to follow presentation of information and the reaction of listeners.	2

<i>№ sala ry</i>	<i>Title of the lecture topic and list of main questions</i>	<i>Hours</i>
1	2	3
	<i>References: [bases 1, 2, 3, 5, 9, 10, add. 1, 2, 3, 5, 7].</i> <i>Tasks for the SRS: Study of the lecture material. Literature: Oratory skills that help the teacher ensure the effectiveness of the lecture. [Foundations 1, 3, 9, 10, Appendix 1, 3].</i>	
4	Lecture 4. Topic 4. Methods of conducting practical and seminar classes in higher school. <i>Didactic goals and functions of practical classes. Use of modern innovative technologies in practical classes. Various forms of tasks for practical lessons. Map of the assessment of a practical (seminar) lesson. Scale of assessments of the quality of seminar classes.</i> <i>References: [main 1, 2, 3, 4, 5, 9, 10, add. 1, 2, 3, 5, 7].</i> <i>Tasks on the SRS: Study of the lecture material. Literature: Characteristics of various forms of tasks for a practical lesson. [Articles 1, 3, 9, 10, add. 1, 3, 5, 7].</i> Topic 5. Methods of solving pedagogical situations in practical classes in higher school. <i>Pedagogical situations as a component of the educational process and their varieties. Methodological recommendations for solving pedagogical situations. Typical mistakes and pedagogically inexpedient actions of the teacher in a problem situation.</i> <i>References: [ed. 1, 3, 4, 5, 9, 10, add. 1, 3, 5, 7].</i> <i>Tasks on the SRS: Study of the lecture material. Features of the practical lesson on the problem situation. References: [main 1, 3, 5, 9, add. 1, 3, 5, 7].</i>	2
5	Lecture 5. Topic 6. Methods of conducting laboratory classes. <i>Methods of conducting laboratory classes. Types of laboratory classes. and their features.</i> <i>References: [main 1, 3, 7, 8, 9, 10, add. 1, 3, 5, 7, 8].</i> <i>Tasks on the SRS: Study of the lecture material. Features of the laboratory lesson</i> <i>Literature: [basics 1, 8, 9, 10, add. 1, 3, 5].</i>	2
6	Lecture 6. Topic 7. Methodology for assessing knowledge, skills and abilities (taking exams and tests). <i>Organization of exams and tests. Assessment card for the organization of exams and tests.</i> <i>References: [Foundations 1, 3, 9, Additions 1, 3, 7].</i> <i>Tasks for the SRS: Study of the lecture material. Literature: Features of creating a ticket, test. Literature: [basics 1, 3, 9, additions 1, 3, 7].</i>	2
7	Lecture 7. Topic 8. Features of the organization of course and diploma design. <i>Features of the organization of course and diploma design.</i> <i>Tasks on the SRS: Study of the lecture material. References: [bases 1, 2, 3, 4, 5, 9, add. 1, 3, 5, 7].</i> Topic 9. Organization of independent and individual work of students of higher education institutions. <i>Organization of independent and individual work of students in a higher education institution.</i> <i>Tasks on the SRS: Study of the lecture material. References: [Foundations 1, 3, 4, 5, 9, Appendix 1, 3, 5, 7].</i>	2
8	Lecture 8. Passed	2

	<i>Just</i>	16
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Practical classes

The main purpose of practical classes in the educational component is to consolidate theoretical knowledge and form skills in the basics of teaching.

No. s/p	Name Theme Practical Classes and List Main issues (list of didactic support, references to literature and tasks of the Special Surveillance Devices)	Hours
1	<i>Practical lesson 1. Familiarization with the curriculum in higher school. References: [bases 3, 10, supplementary 2]. Tasks for the SRS: Acquaintance with the structure of the curriculum of bachelor's and master's degrees in the specialty Literature: [bases 5, 10, add. 2].</i>	2
2	<i>Practical lesson 2. Familiarization with the educational and methodological support of the teacher's discipline in higher school (syllabus, tickets, etc.) References: [bases 5, 10, supplementary 3]. Tasks for the SRS: Acquaintance with the structure of the syllabus in the discipline of bachelor and master Literature: [bases 1,2, 10, add. 2].</i>	2
3	<i>Practical lesson 3. Methods of preparing and conducting a lecture in higher school References: [bases 1, 2, 5, 10, additions 3, 4, 5]. Tasks on the SRS: Acquaintance with the features of the lecture in higher school [bases 1, 2, 5, 10, additions 3, 4, 5].</i>	2
4	<i>Practical lesson 4. Methods of conducting practical classes References: [bases 2, 4, 5, 10, add. 1]. Tasks on the SRS: Acquaintance with the features of the practical lesson of higher school Literature: [bases 2, 5, 10, additions 4, 2].</i>	2
5	<i>Practical lesson 5. Methods of conducting laboratory classes in higher School. References: [bases 5, 10, additions 2, 8]. Tasks for the SRS: Acquaintance with the features of laboratory classes in higher school References: [bases 5, 8, 10, additions 2, 8].</i>	2
6	<i>Practical lesson 6. Methods of organizing pedagogical control of students in higher school References: [bases 5, 10, supplementary 2]. Tasks on the SRS: Acquaintance with the features of the forms of pedagogical control of students in higher school References: [bases 5, 10, appendix 2].</i>	2
7	<i>Practical lesson7. Modular control work</i>	<u>2</u>
	Just	14

Laboratory classes

Laboratory classes on the educational component "Fundamentals of Teaching" are not provided for by the working curriculum.

6. Independent work of a student

Independent work takes 50% of the time to study the educational component, including preparation for the test. The main task of independent work of masters is to master knowledge that is not included in the list of lecture questions through personal search for information, the formation of an active interest in a creative approach in educational work. In the process of independent work within the framework of the educational component, the master must learn to analyze modern sources, educational literature.

<i>No sala ry</i>	<i>Name of the topic submitted for independent study</i>	<i>Quantity hours of SRS</i>
<i>1</i>	<i>2</i>	<i>3</i>
<i>1</i>	Topic 1. Entry. Subject, tasks, main categories and topical problems of teaching methods in higher school. <u>Task upon SRS:</u> <i>Study Material Lecture.</i> <i>References: Characteristics of the main categories of higher education [Foundations 1, 4, 5, 6, 9, Appendix 1, 3, 5 7].</i>	<i>2</i>
<i>2</i>	Topic 2. Improvement Content Educational Disciplines in the context of the methodology of their teaching. <u>Task upon SRS:</u> <i>Study Material Lecture.</i> <i>Literature: Features of the components of the content of education in the context of the methodology of their teaching [Foundations 1, 3, 9, Appendix 1, 5].</i>	<i>2</i>
<i>3</i>	Topic 3. Methods of preparing and conducting a lecture in higher school. <u>Task upon SRS:</u> <i>Study Material Lecture.</i> <i>Literature:</i> <i>Public speaking skills that help the teacher ensure the effectiveness of the lecture. [Foundations 1, 3, 9, Appendix 1, 3].</i>	<i>2</i>

<i>No sala ry</i>	<i>Name of the topic submitted for independent study</i>	<i>Quantity hours of SRS</i>
	<i>Tasks on the SRS: Acquaintance with the features of the lecture in the higher school [bases 1, 2, 5, 9, additions 3, 4, 5].</i>	
4	Topic 4. Methods of conducting practical and seminar classes in higher school. <u>Tasks on the SRS:</u> Study of the lecture material. Literature: Characteristics of various forms of tasks for a practical lesson. [Foundations 1, 3, 9, 10, Appendix 1, 3, 5, 7]. <u>Tasks on the SRS:</u> Acquaintance with the features of the practical lesson for higher school Literature: [bases 2, 5, additions 4, 2]. Topic 5. Methods of solving pedagogical situations in practical classes in higher school. <u>Task upon SRS:</u> Study Material Lecture. Features of a practical lesson on a problem situation. References: [Basics 1, 3, 5, 9, Supplements 1, 3, 5, 7].	4
5	Topic 6. Methods of conducting laboratory classes. <u>Task upon SRS:</u> Study Material Lecture. Features of the laboratory lesson Literature: [basics 1, 8, 9, additions 1, 3, 5, 8].	2
6	Topic 7. Methodology for assessing knowledge, skills and abilities (taking exams and tests). <u>Task upon SRS:</u> Study Material Lecture. Features of creating a ticket, test. References: [Foundations 1, 3, 9, Additions 1, 3, 7]. <u>Task upon SRS:</u> Acquaintance with Features Forms of Pedagogical Control of Students in Higher School Literature: [Base 5, 9, Supplement 2].	2
7	Topic 8 Features of the organization of course and diploma design. <u>Tasks on the SRS:</u> Study of the lecture material. Literature: [Basic 1, 3, 4, 5, 6, 9, Add. 1, 3, 5, 7]. Topic 9. Organization of independent and individual work of students at higher education institutions. <u>Task upon SRS:</u> Study Material Lecture. Bibliography: Features of independent and individual work [bases 1, 2, 3, 5, 7, 9, add. 1, 3, 5, 7].	4
8	Preparation for the modular test work	4
9	Preparation for the test	6
Just		30

Policy and control

7. Educational Component Policy

Rules for attending classes and behavior in the classroom

Attendance at classes is a mandatory component of assessment. Masters are obliged to take an

active part in the educational process, not to be late for classes and not to miss them without a good reason, not to interfere with the teacher conducting classes, not to be distracted by actions that are not related to the educational process.

Rules for assigning incentive and penalty points

Incentive points can be awarded by the teacher only for the performance of creative work on the educational component.

Penalty points within the educational component can be received for late completion or defense of practical work.

Deadline and retake policy

In case of debts from the educational component or any force majeure circumstances, masters should contact the teacher through the available (provided by the teacher) communication channels to solve problematic issues and agree on an algorithm of actions for working out.

Academic Integrity Policy

Plagiarism and other forms of dishonest work are unacceptable. Plagiarism includes the absence of references when using printed and electronic materials, quotes, opinions of other authors. All tasks designed for individual performance must be performed personally by the student. Hints and cheating during writing tests, control, conducting classes are unacceptable; defense of practical papers, passing an exam for another student; copying materials protected by the copyright system without the permission of the author of the work.

The policy and principles of academic integrity are defined in Section 3 of the Code of Honor of the National Technical University of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute". Read more: <https://kpi.ua/code>

Academic Conduct and Ethics Policy

Students should be tolerant, respect the opinions of others, formulate objections in the correct form, and constructively support feedback in the classroom.

The norms of ethical behavior of students and employees are defined in Section 2 of the Code of Honor of the National Technical University of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute". Read more: <https://kpi.ua/code>

8. Types of control and rating system for assessing learning outcomes (RSO)

Distribution of study time by types of classes and tasks from the educational component:

Semester	Study time		Distribution of training hours					Control measures		
	Credit to you	Acad. H.	Lecture	Practices (Seminar) sky)	Lab. Rob.	Ind us zan.	SRS	MCW	RR	Semester control
1	2	60	16	14	-	-	30	1	—	Passe d

The student's rating in the educational component consists of the points that he receives for: performance of practical work and MCW.

Semester control is a test.

System of rating (weight) points and evaluation criteria

The system of rating points and evaluation criteria consists of points for:

1. Completing tasks in practical classes.

The weight score for practical work is 14 points, 6 tasks are provided. Criteria for evaluating the implementation of the practical task

Completeness and signs of task completion	Points
<i>The task is completed in full</i>	<i>14</i>
<i>Minor shortcomings in the task</i>	<i>13,5-10</i>
<i>Untimely completion of the task and there are shortcomings</i>	<i>9,5-6</i>
<i>Poor quality with errors, untimely completion of the task</i>	<i>5-1,5</i>
<i>Failure to complete the task</i>	<i>0</i>

2. Completing tasks with MCW

There are 2 hours of MCR, which is held at the penultimate practical lesson. The weight score of the modular test is 16 points: The task on the MCW contains 4 tasks, each task is evaluated by 4 points.

Criteria for evaluating the performance of the task

Completeness and signs of task completion	Point s
<i>The task is completed in full</i>	<i>4</i>
<i>Minor shortcomings in the task</i>	<i>3,5</i>
<i>Completing the task incompletely or with many flaws</i>	<i>3-2</i>
<i>Poor performance of the task with gross errors</i>	<i>1,5-1</i>
<i>Failure to complete the task</i>	<i>0</i>

Thus, the rating semester scale from the educational component is:

$$R_c = 14 \cdot 6 + 4 \cdot 4 = 84 + 16 = 100 \text{ points}$$

According to the results of academic work for the first 7 weeks, the "ideal student" should score 40 points. At the first attestation (8th week), the student receives "attested" if his current rating is at least 20 points.

According to the results of educational work for 13 weeks of study, the "ideal student" should score 90 points. At the second attestation (14th week), the student receives "attested" if his current rating is at least 40 points.

The maximum amount of points for the discipline is 100 points. To obtain admission to the test in the educational component "Fundamentals of Teaching", a student needs to pass all practical work in the educational component and have a minimum rating of 24 points. Students who have scored $R_c = 60$ points or more per semester can receive credit automatically based on the points scored. Students who did not score a semester rating of 60 points and have a minimum of 24 points, or students who want to increase their scores from the credit module, write a credit written work. The test card contains 4 questions. The weight score of each question is estimated at 25 points, which is evaluated:

"excellent", complete answer (at least 90% of the required information) – $24 \div 25$ points;

"very good", answer with 1-2 (at least 85% of the required information) – $20 \div 23$ points;

"good", a sufficiently complete answer (at least 75% of the required information or minor inaccuracies) – 12÷19 points;

"satisfactory", incomplete answer (at least 70% of the required information and some errors) – 6÷11 points;

"enough", incomplete answer (at least 60% of the necessary information and some gross errors) – 1÷4 points;

"unsatisfactory", unsatisfactory answer – 0 points.

The sum of all rating points received on the R test from the educational component is as follows:

$$R=4*25 = 100 \text{ points}$$

To obtain a score, the sum of all received rating points R is converted according to the table:

Score	Score
95...100	Perfectly
85...94	Very good
75...84	well
65...74	Satisfactory
60...64	enough
RD < 60	Disappointing
Not met the conditions of admission Rc < 24	not allowed

9. Additional information on the educational component

Approximate list of questions for modular test work

- 1 What is a working curriculum at a university?
- 2 What is the structure of the working curriculum in a higher education institution (university)?
- 3 Who develops and approves at the higher education institution (university)?
- 4 How often and why is the working curriculum drawn up approved by a higher education institution (university)?
- 5 What are the main structural elements of the curriculum in a higher education institution (university)?
- 6 Define the syllabus from the educational component.
- 7 What is the structure of the syllabus of the educational component?
- 8 Where do the hours for the development of the rating system of assessment (RSO) in the syllabus of the educational component come from?
- 9 What are the requirements for the proportion of points for assessing the RSO of the test from the educational component in the syllabus?
- 10 What are the requirements for the proportion of points for the assessment in the RSO of the exam on the educational component in the syllabus?
- 11 Who develops and approves the syllabus from the educational component?
- 12 What is the structure of the discipline ticket for the exam on the educational component?
- 13 What is the structure of the credit card for the educational component?
- 14 Where do competencies, knowledge and skills from the educational component into the syllabus come from?
- 15 Who develops and what is the purpose of the educational and professional program (OPP) for the level of higher education of the master in the specialty G 11 "Mechanical Engineering"?
16. What is a didactic project?
17. Define the lecture.
18. Explain what are the advantages and disadvantages of a lecture in higher school.
19. What types of lectures are used in a modern higher education institution? What are its didactic tasks.
20. How can you activate the educational and cognitive activity of students at the lecture?

21. Describe the structure of a traditional thematic lecture. What factors determine the structure of the lecture?
22. Describe the methodology and technique of lecturing.
23. What stages does the didactic project of a lecture in higher school include? Describe them.
24. Define a practical activity.
25. Describe the structure of the practical lesson.

Approximate list of questions for the test from the educational component "Fundamentals of Teaching"

1. Who develops and approves the syllabus from the educational component?
2. What is the structure of the ticket for the discipline on the exam for the educational component?
3. What is the structure of the credit card for the educational component?
4. Where do competencies, knowledge and skills from the educational component into the syllabus come from?
5. Who develops and what is the purpose of the educational and professional program (OPP) for the level of higher education of the master's degree in the specialty G 11 "Mechanical Engineering"?
6. What is a didactic project?
7. Define the lecture.
8. Explain what are the advantages and disadvantages of a lecture in higher school.
9. What types of lectures are used in a modern higher education institution? What are its didactic tasks.
10. How can you activate the educational and cognitive activity of students at the lecture?
11. Describe the structure of a traditional thematic lecture. What factors determine the structure of the lecture?
12. Describe the methodology and technique of lecturing.
13. What stages does the didactic project of a lecture in higher school include? Describe them.
14. Define a practical activity.
15. Describe the structure of the practical lesson.
16. Define an individual lesson.
17. Define the consultation.
18. Define the seminar lesson.
19. What is the purpose of the seminar in an active form?
20. What is the procedure for preparing and conducting seminars in an active form?
21. Define laboratory work?
22. Describe the classification of laboratory work.
23. Describe the organization of laboratory tasks.
24. What types of control are used in the educational process in higher school? Characterize them.
25. Describe the organization of the test in higher school?
26. Describe the organization of the exam in higher school?
27. What are the general criteria for assessing students' knowledge on the exam?
28. Describe the structure of the lesson on conducting a consultation on the educational component in higher education?

Work program of the educational component (syllabus):

Compiled by Assoc. Prof., Ph.D., Assoc. Prof. Kazak I.O.

Approved by the Department of CPSM (Minutes No. 17 dated 04.06.2025)

Approved by the Department of MACOI (Minutes No. 20 dated 12.06.2025)

Approved by the Methodological Commission of the Faculty of Engineering and Chemistry
(Minutes No. 11 dated 27.06.2025)