

GRODNO STATE MEDICAL UNIVERSITY

Criteria for assessing the results of educational activities of students in higher education institutions in the discipline «Medical and Biological Physics»

10 points – ten, passed:

- systematized, deep and complete knowledge of all sections of the curriculum in medical and biological physics, as well as of the **main issues beyond it**;
- **accurate** use of scientific terminology (including in a foreign language), stylistically competent, logically correct presentation of answers to questions, the ability to make well-founded conclusions and generalizations;
- **flawless mastery** of the tools of academic discipline, the ability to effectively use them in setting and solving scientific and professional problems;
- **expressed ability** to independently and creatively solve complex problems in a non-standard situation;
- **complete and deep assimilation of the main and additional** literature recommended by the curriculum of the discipline;
- the ability to **easily** navigate the theories, concepts and trends in medical and biological physics and to give them an analytical assessment, to use the scientific achievements of other disciplines;
- **creative independent work** in practical, laboratory classes, **active** participation in group discussions, a **high level of culture** in completing assignments.

9 points – nine, passed:

- systematized, deep and complete knowledge of all sections of the curriculum in medical and biological physics;
- accurate use of scientific terminology (including in a foreign language), stylistically competent, logically correct presentation of answers to questions;
- **mastery** of the tools of academic discipline, the ability to effectively use them in setting and solving scientific and professional problems;
- the **ability** to independently and creatively solve complex problems in a non-standard situation within the curriculum framework;
- **complete assimilation of the main and additional** literature recommended by the curriculum of the discipline;
- the **ability to navigate the main** theories, concepts and trends in the discipline being studied and to give them a critical assessment;

- **independent work** in practical, laboratory classes, creative participation in group discussions, a **high level of culture** in completing assignments.

8 points – eight, passed:

- systematized, deep and complete knowledge of all sections of the curriculum in medical and biological physics;
- usage of scientific terminology, stylistically competent, logically correct presentation of answers to questions, the ability to make **well-founded** conclusions;
- **mastery** of the tools of medical and biological physics (methods of complex analysis, information technology techniques), the ability to use them in setting and solving scientific and professional problems;
- the **ability** to independently solve complex problems within the curriculum framework in medical and biological physics;
- **assimilation of the main and additional** literature recommended by the curriculum in medical and biological physics;
- the **ability to navigate the main** theories, concepts and trends of medical and biological physics and to give them an analytical assessment;
- **active independent work** in practical, laboratory classes, **systematic** participation in group discussions, a **high level of culture** in completing assignments.

7 points – seven, passed:

- systematized, deep and complete knowledge of all sections of the curriculum in medical and biological physics;
- usage of scientific terminology (including in a foreign language), logically correct presentation of answers to questions, the ability to make **well-founded** conclusions;
- **mastery** of the tools of medical and biological physics, the ability to use them in setting and solving scientific and professional problems;
- **assimilation of the main and additional** literature recommended by the curriculum in medical and biological physics;
- the **ability to navigate the main** theories, concepts and trends of medical and biological physics and to give them an analytical assessment;
- being fluent in standard solutions within the curriculum framework in medical and biological physics;
- **independent work** in practical, laboratory classes, participation in group discussions, a **high level of culture** in completing assignments.

6 points – six, passed:

- **sufficiently** complete and systematized knowledge within the scope of the curriculum in medical and biological physics;
- usage of the necessary scientific terminology, stylistically competent, logically correct presentation of answers to questions, the ability to make **reasonable** conclusions;
- **mastery** of the tools of medical and biological physics, the ability to use them in solving educational problems;
- the **ability** to independently apply typical solutions within the curriculum framework in medical and biological physics;
- **assimilation of the main** literature recommended by the curriculum in medical and biological physics;
- the **ability to navigate the basic** theories, concepts and trends in medical and biological physics and to give them a comparative assessment;
- **active independent work** in practical, laboratory classes, periodic participation in group discussions, a **high level of culture** in completing assignments.

5 points – five, passed:

- sufficient knowledge of the curriculum in medical and biological physics;
- use of scientific terminology, stylistically competent, logically correct presentation of answers to questions, the ability to draw conclusions;
- **mastery** of the tools of medical and biological physics, the ability to draw conclusions;
- the **ability** to independently apply typical solutions within the curriculum framework in medical and biological physics;
- **assimilation of the main** literature recommended by the curriculum in medical and biological physics;
- the **ability to navigate** the basic theories, concepts and trends in medical and biological physics and to give them a comparative assessment;
- **independent work** in practical, laboratory classes, partial participation in group discussions, a **sufficient level of culture** in completing assignments.

4 points – four, passed:

- **sufficient knowledge** within the curriculum framework in medical and biological physics;
- use of scientific terminology, logical presentation of answers to questions, the ability to draw conclusions **without making significant mistakes**;

- **mastery** of the tools of academic discipline, the ability to use them in solving standard (typical) problems;
- **assimilation of the main** literature recommended by the curriculum in medical and biological physics;
- the **ability** to solve standard (typical) problems under the guidance of a teacher;
- the **ability to navigate** the main theories, concepts and trends in medical and biological physics and to evaluate them;
- the **work** under the guidance of a teacher in practical, laboratory classes, an **acceptable level of culture** in completing assignments.

3 points – three, failed:

- **insufficiently complete volume of knowledge** within the scope of the curriculum in medical and biological physics;
- use of scientific terminology, presentation of the answer to the question **with significant mistakes**;
- **partial knowledge of the main** literature recommended by the curriculum in medical and biological physics;
- **poor command** of the tools of academic discipline, **incompetence** in solving **typical** problems;
- the **inability to navigate** the main theories, concepts and trends in medical and biological physics;
- **passivity** in practical and laboratory classes, **low level of culture** in completing assignments.

2 points – two, not credited:

- **fragmentary knowledge** within the curriculum;
- **knowledge of some** literary sources recommended by the curriculum in medical and biological physics;
- the inability to use scientific terminology of the discipline, presence of **rough, logical mistakes** in the answer;
- **passivity** in practical and laboratory classes, **low level of culture** in completing assignments.

1 point – one, not credited:

- **lack of knowledge and competencies** within the scope of the curriculum **or** refusal to answer;
- failure to appear for certification without a valid reason.

KNOWLEDGE ASSESSMENT CRITERIA FOR COMPUTER TESTING IN MEDICAL AND BIOLOGICAL PHYSICS

Up to 24% of correct answers – 1 point – failed;
25 – 34% of correct answers – 2 points – failed;
35 – 44% of correct answers – 3 points – failed;
45 – 54% of correct answers – 4 points – passed;
55 – 64% of correct answers – 5 points – passed;
65 – 74% of correct answers – 6 points – passed;
75 – 82% of correct answers – 7 points – passed;
83 – 89% of correct answers – 8 points – passed;
90 – 95% of correct answers – 9 points – passed;
96 – 100% of correct answers – 10 points – passed.

CRITERIA FOR ASSESSING PRACTICAL SKILLS AND ABILITIES IN MEDICAL AND BIOLOGICAL PHYSICS

While studying medical and biological physics, a student must master the following practical skills:

- 1) to observe safety regulations when working with electrical devices, fire safety and safety regulations when performing laboratory work;
- 2) to be able to determine the division value of a device;
- 3) to be able to use basic physical devices and the rules for including them into an electrical circuit;
- 4) to be able to convert basic units of measurement and decimal prefixes;
- 5) to select the optimal scale for constructing graphical dependencies and to interpret the obtained dependencies;
- 6) to express mathematically the desired value from formulas, to substitute numerical values into the formula;
- 7) to estimate the errors of the obtained measurements;
- 8) to round off decimal fractions according to the rounding rules.

Assessment of practical skills and abilities in the form of performing laboratory work and of submitting the laboratory work report is carried out during laboratory classes with the following marks:

- "passed" - "+";
- "not passed" - "-".

If a laboratory class is not passed, a student takes it again.

The final evaluation of practical skills at the end of the 1st semester or the academic year is carried out based on all passed laboratory work that must be completed according to the curriculum. If there is any failed laboratory work, a student is considered to have failed the curriculum.

Head of the Department of
Medical and Biological Physics



Khodosovskiy M.N.

Approved by the meeting of the Department of
Medical and Biological Physics
record No.1 dated 29/08/2025