

APPROVED
at the meeting of Department
of Normal Physiology on
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Organization of credit and examination.
CRITERIA FOR EVALUATING THE STUDENTS' RESULTS
OF LEARNING ACTIVITIES AT THE DEPARTMENT
OF NORMAL PHYSIOLOGY OF BSMU
ON A TEN-POINT SCALE

INFORMATION SECTION

1. Organization of credit and exam in the discipline

Credit and exam for the discipline "Normal Physiology" are organized in accordance with the Rules of the certification of students, cadets, and course students in mastering the content of higher education educational programs approved by order of Rector of BSMU from 25.05.2024 № 318 (hereinafter referred to as Certification Rules).

Assessment of the level of knowledge acquisition or mastery of a practical skill is performed on the basis of criteria for assessing the results of educational activities of students studying at the Department of Normal Physiology using a ten-point scale and scales of marks for the test when completing tasks in the test form.

Current certification (the concluding classes, or colloquiums) is carried out in the form of computer testing on questions covering all topics of the section(s) of the discipline, and oral or written interview. Up to 28 minutes are given for the test completion. During the current certification, the mastery of theoretical material and practical skills is monitored, with two separate marks being given. The list of questions and tasks is given in the practical book, as well as in the E-learning system in the Electronic Academic and Methodological Complex. The current certification is considered successfully completed in case of the presence of two positive marks: based on the results of certification of theoretical knowledge and based on the results of certification of practical skills. The retake of the concluding classes is accepted within two weeks after the concluding class by the teacher who hosted the colloquium from the student. A student who does not pass the concluding lesson (theoretical and (or) practical part) with positive marks within the established time frame is considered to have failed the current certification.

Interim certification

Students are admitted to the credit if they passed successfully the current certification (the concluding classes, or colloquiums), they do not have absences from practical classes and lectures (or they have worked off the missed classes and lectures), they presented notes of lectures intended for the supervised student independent work, they have not violated discipline and safety rules, and they have their protocols of practical classes completed and signed. Students who have received an unsatisfactory grade(s) on the results of the current certification, must pass a control test to be admitted to the interim assessment.

Students admitted to the credit and who successfully passed the current certification on the first attempt, receive a “passed” mark on the basis of the results of their current assessment.

Students admitted to the credit but failed the current assessment on their second or subsequent attempts, should take the credit in the form of a computer test containing questions on all sections of the current semester. Up to 28 minutes are given for the test completion.

The first retake of the credit is taken by the teacher who conducted the classes during the academic semester, the second retake is accepted by the commission in oral form in accordance with the requirements of the Certification Rules.

Students are admitted to the exam if they successfully passed the credit for the previous semester, have successfully passed the current certification (colloquiums) with positive marks, have submitted lecture notes of the lectures that are included into supervised student independent work, they do not have absences from practical classes and lectures (or have worked off the missed classes and lectures), have not violated discipline and safety rules, have their protocols of practical classes completed and signed. Students who have an unsatisfactory mark(s) of the current assessment for the current semester take a control test to be admitted to the interim assessment.

In order to increase motivation to study the academic discipline, students who have successfully passed all colloquiums of the current certification in two semesters on the first attempt and have an average score of 7.0 or higher based on the results of the current certification, student rating for two semesters (R_{study}) 7.0 and higher, at the exam, taking into account the student's academic achievements (the sum of R_{study} points and bonus points), can be given a mark of 9 or 10 points in equal shares within the quota of places, which is 20% (rounded according to the rules of mathematical rounding) of the total number of students in the faculty in the relevant specialty.

The **examination** in the academic discipline for students studying at **the Medical Faculty for Foreign Students** is conducted in **two stages**:

Stage 1 is a computer test, consisting of 60 questions; 40 minutes are given to complete the test. Based on the results of the 1st stage, a student who has achieved a passing score in accordance with the scale of marks for the test, is admitted to the second stage of the exam. A student who has not achieved the minimum passing score in accordance with the scale of marks for the test, is not allowed to take the second stage of the exam; a mark of 1 (one) point is put into the credit and examination sheet of intermediate certification.

Stage 2 of the exam is carried out in the form of an oral interview with students using examination cards annually developed and approved by the department.

In case of refusal to give an oral answer, the examination mark is 1 (one) point.

The final examination mark (M_{exam}) is calculated taking into account the student's rating for two semesters (R_{study}) and the mark for the second stage of the exam ($M_{\text{2nd stage}}$), rounding to the nearest integer, plus bonuses and minus penalties:

$$M_{\text{exam}} = \frac{M_{2nd\ stage} + R_{\text{study}}}{2} + B - P$$

Calculation of a student's rating for two semesters (R_{study}) is made using the following formula, rounding to the nearest tenth of the number:

$$R_{\text{study}} = \frac{R_{\text{academ}} + P_{\text{pract}} + P_{\text{current}}}{3},$$

where R_{academ} is the average score based on the results of the mastery of theoretical material in the concluding classes (first mark) for two semesters; R_{pract} – average score based on the results of the development of practical skills in concluding classes (second mark) for two semesters; R_{current} is the average grade point for two semesters from the electronic journal (if the semesters are presented separately in the electronic journal, then $R_{\text{current}} = (R_{\text{current } 1} + R_{\text{current } 2}) / 2$).

B — bonuses can be given for:

- development and preparation of tables, various visual aids, teaching videos, teaching computer programs etc. — 0,1 for an item;
- presenting a report at the department's Student Scientific Circle meetings — 0,05 for one report presentation;
- presenting an abstract report at the Student Scientific Conference of BSMU (Normal Physiology section) — 0,1 for one report presentation;
- presenting a report at the Student Scientific Conference of BSMU (Normal Physiology section) or in the other organization with thesis based on the results of a research work performed at the department — 0,2 for one report presentation (diploma winners are awarded additional points: 1st place and laureate – 0.3; 2nd place – 0.2; 3rd place – 0.1);
- preparation of work for the Republican competition of student scientific works approved by the teacher and submitted to the department — 0.4 points.

Bonus points cannot exceed 1.

P — penalty points are given for:

- breach of discipline during lectures and classes – 0,5 for a breach.

Penalty points cannot exceed 1.

Structure of the examination paper

Examination paper (exam card, ticket) includes 2 questions on the section "Mechanisms of regulation of functions", and the 3rd one – on the methods of physiological functions investigation, present in the list of practical questions for exam.

It is recommended to begin the answer to the questions of the examination card with the definition of general concepts. Classifications, graphs, charts, etc. necessary for the answers should be written on the examination sheet. To clarify the examination mark, examiners may ask the student additional questions in accordance with the discipline program. The number of additional questions should not exceed three.

At the exam, the student presents the completed practical book in the discipline and the notes of lectures intended for the supervised student independent work.

CRITERIA FOR STUDENTS' KNOWLEDGE ASSESSMENT

Ten (10) points are awarded to the student who demonstrated:

- systematized, deep and complete knowledge in all sections of the curriculum of the institution of education "Belarusian State Medical University" in the academic discipline "Normal Physiology", as well as the major issues beyond it;
- accurate use of scientific terminology, knowledge of standards of the most important constants of homeostasis of the internal environment, blood, cardiovascular, respiratory and other systems of the body;
- competent, logically correct presentation of the answer to the questions, involving knowledge obtained in related biomedical disciplines (biology, histology, anatomy, biochemistry, physics, etc.), ability to make reasonable conclusions;
- impeccable mastery of academic discipline tools, the ability to use it effectively in setting and solving scientific and professional problems;
- a pronounced ability to independently and creatively solve non-standard and complex situational tasks, integrating knowledge from various sections of the discipline and related medical and biological disciplines;
- full and deep assimilation of basic and additional literature on normal physiology;
- the ability to freely navigate in the theories, concepts and trends in the studied discipline and give them an analytical assessment, to use the scientific achievements of other disciplines;
- ability to independently and creatively perform practical skills, knowledge of the methods of their performance with its physiological justification, ability to independently analyze and give a comprehensive physiological assessment of the results obtained, to demonstrate the practical application of the techniques used;
- creative independent work in practical classes, active creative participation in group discussions, a high level of culture of performing tasks.

9 (nine) points are earned by the student who demonstrated:

- systematized, deep and complete knowledge of all sections of the university curriculum in the academic discipline, presented with the involvement of knowledge obtained in related biomedical disciplines (biology, histology, anatomy, biochemistry, physics, etc.);
- accurate use of scientific terminology; knowledge of norms of the most important constants of homeostasis of the internal environment, blood, cardiovascular, respiratory and other systems of the body;
- competent, logically correct presentation of the answer to questions;

- mastery of the tools of the discipline, the ability to use them effectively in the formulation and solution of scientific and professional problems;
- the ability to independently and creatively solve complex problems in a non-standard situation within the framework of the university curriculum in the academic discipline, to solve complex situational tasks, demonstrating the connection of knowledge from different sections of the discipline;
- full assimilation of basic and additional literature recommended by the university curriculum on normal physiology;
- ability to navigate the theories, concepts and trends in the studied discipline, and give them a critical assessment;
- systematic, active independent work in practical classes, creative participation in group discussions, a high level of culture of performing tasks;
- who made minor mistakes when answering, such as inaccuracies in wording, terminology (no more than one mistake on each of the questions of the examination ticket).

Eight (8) points are deserved by the student who demonstrated:

- systematized, deep and complete knowledge of all sections of the university curriculum in the academic discipline, presented with the involvement of knowledge obtained in related biomedical disciplines (biology, histology, anatomy, biochemistry, physics, etc.);
- accurate use of scientific terminology; knowledge of standards of the most important constants of homeostasis of the internal environment, blood, cardiovascular, respiratory and other systems of the body;
- competent, logically correct presentation of the answer to questions, ability to make reasonable conclusions;
- mastery of the tools of the discipline, the ability to use them effectively in the formulation and solution of scientific and professional problems;
- the ability to independently and creatively solve complex problems in a non-standard situation within the framework of the university curriculum on the academic discipline, independently solve situational problems using knowledge from related sections of the discipline;
- assimilation of basic and additional literature recommended by the university curriculum on the academic discipline;
- ability to navigate the theories, concepts and trends in the study discipline and give them a critical assessment;
- active independent work in practical classes, regular participation in group discussions, a high level of culture of performing tasks;
- who made minor mistakes when answering, such as inaccuracies in wording, terminology (no more than two mistakes on each of the questions of the examination ticket).

Seven (7) points are awarded to a student who demonstrated:

- systematized, deep and complete knowledge of all sections of the university curriculum in the academic discipline, presented with the involvement of

knowledge obtained in related biomedical disciplines (biology, histology, anatomy, biochemistry, physics, etc.);

- accurate use of scientific terminology; knowledge of standards of the most important constants of homeostasis of the internal environment, blood, cardiovascular, respiratory and other systems of the body;
- competent, logically correct presentation of the answer to questions, ability to make reasonable conclusions;
- mastery of the tools of the discipline, the ability to use them effectively in the formulation and solution of scientific and professional problems;
- the ability to independently solve complex problems in a non-standard situation within the framework of the university curriculum in the academic discipline, and independently solve typical situational problems using knowledge from related sections of the discipline;
- assimilation of basic and additional literature recommended by the university curriculum on normal physiology;
- ability to navigate the theories, concepts and trends in the discipline and give them a critical assessment;
- independent work in practical classes, participation in group discussions, a high level of culture of performing tasks;
- who made insignificant mistakes (no more than three on each of the examination questions) or no more than one significant mistake (incorrect description of physiological functions, their realization or regulation mechanisms; errors in the technique of performing a practical skill that could substantially affect the obtained result and/or incorrect interpretation of the obtained result).

Six (6) points are given to a student who demonstrated:

- sufficiently complete and systematic knowledge in the scope of the university curriculum in normal physiology;
- use of necessary scientific terminology; knowledge of the norms of the most important homeostasis constants of the internal environment, blood, cardiovascular, respiratory and other systems of the body;
- competent, logically correct presentation of the answer to questions, the ability to make generalizations and justified conclusions;
- mastery of the tools of the academic discipline, the ability to use them in solving scientific and professional problems;
- the ability to independently apply typical solutions within the framework of the university curriculum for the academic discipline, independently solve typical situational problems within the relevant section of the discipline;
- assimilation of the basic literature recommended by the university curriculum in normal physiology;
- the ability to navigate basic theories, concepts and trends in the discipline studied and give them a comparative assessment;
- active independent work in practical classes, periodic participation in group discussions, a high level of culture of performing tasks;

- positive results of certification in practical classes;
- who made insignificant mistakes and no more than two significant mistakes (fundamental errors, such as ignorance of the exact mechanisms of functioning of physiological systems, inability to show and explain in detail how to work with a tonometer, pulse oximeter, Forster's perimeter, etc.).

Five (5) points are given to the student who demonstrated:

- sufficient knowledge within the scope of the university curriculum in normal physiology;
- use of scientific terminology, knowledge of the norms of the most important homeostasis constants of the internal environment, blood, cardiovascular, respiratory and other systems of the body;
- competent, logically correct presentation of the answer to questions, the ability to draw conclusions;
- mastery of the tools of the academic discipline, the ability to use them in solving educational and professional problems;
- ability to independently apply typical solutions within the framework of the university curriculum for the academic discipline, with a little help from the teacher to solve typical situational problems within the relevant section of the discipline;
- assimilation of the basic literature recommended by the university curriculum for the academic discipline;
- ability to navigate basic theories, concepts and trends in the discipline studied and give them a comparative assessment;
- independent work in practical classes, fragmented participation in group discussions, sufficient level of culture of performing tasks;
- mistakes on every issue, including significant errors.

Four (4) points are given to the student who demonstrated:

- sufficient knowledge within the scope of the university curriculum in normal physiology, knowledge of the norms of the most important homeostasis constants of the internal environment, blood, cardiovascular, respiratory and other systems of the body;
- assimilation of the basic literature recommended by the university curriculum for the academic discipline;
- use of scientific terminology, logically correct presentation of the answer to questions, the ability to draw conclusions without significant mistakes;
- insufficient comprehension of the lecture material on the studied section;
- mastery of the tools of the academic discipline or its module, the ability to use them in solving standard (typical) tasks, ability to solve typical standard problems and, under the guidance of a teacher, situational tasks;
- ability to navigate the main theories, concepts and trends in the studied academic discipline and give them an assessment;
- work under the guidance of the teacher in practical classes, the acceptable level of culture of performance of tasks.

3 (three) points are given to the student who demonstrated:

- incomplete knowledge within the educational standard of higher education, absence of knowledge (fragmentary knowledge) of the norms of the most important homeostasis constants of the internal environment, blood, cardiovascular, respiratory and other systems of the body;
- knowledge of only a part of the basic literature recommended by the university curriculum in the discipline;
- use of scientific terminology and presentation of the answer to the questions with significant, logical errors;
- poor mastery of the tools of the academic discipline, incompetence in solving standard (typical) and (or) situational tasks, poor mastery of practical skills within the academic discipline (fundamental errors in their demonstration);
- inability to navigate the basic theories, concepts and trends of the study discipline;
- passiveness in practical classes, low level of culture of performing tasks.

Two (2) points are given to the student who demonstrated:

- fragmentary knowledge within the educational standard of higher education, absence of knowledge (fragmentary knowledge) of the norms of the most important homeostasis constants of the internal environment, blood, cardiovascular, respiratory and other systems of the body;
- knowledge of selected literary sources recommended by the university curriculum for the academic discipline;
- inability to use the scientific terminology of the academic discipline, the presence of gross, logical errors in the answer;
- inability to solve standard (typical) and situational tasks;
- passiveness in practical classes, low level of culture of performing tasks.

One (1) point is given to the student:

- in the absence of knowledge (and competencies) within the educational standard of higher education;
- in the case of a refusal to answer;
- failure to show up for an evaluation without a good reason;
- in the case of a breach of discipline during the examination.

Marks of 9 or 10, as well as 3, 2, and 1 point are given based on a joint decision of the examiners and the head of the department, or a teacher assigned by him.

Head of the Department
of Normal Physiology



I.N. Semenenya