

**CRITERIA FOR GRADING KNOWLEDGE AND SKILLS
OF HIGHER EDUCATION APPLICANTS
IN THE EDUCATIONAL COMPONENT
"MODERN PROBLEMS OF MOLECULAR BIOLOGY"
for the EP "Pharmacy" full-time form**

The educational component "Modern Problems of Molecular Biology" is studied during 1 semester and consists of 1 module, which is divided into 2 content modules.

When assessing the knowledge of a higher education applicant, preference is given to standardised control methods: testing (computer-based), written work, control of practical skills.

Current control is carried out systematically during the semester during seminars and is assessed by the amount of points scored.

Current control is mandatory, the knowledge of higher education students is assessed at each lesson (on each topic). The forms of current control are testing (computer-based), written work, and practical skills control.

The scheme of accrual and distribution of points of current control of higher education students studying on a full-time

Module 1												Total
Current assessment and self-work												
<i>Content module 1</i>						<i>Content module 2</i>						100
T1	T2	T3	T4	T5	CM 1	T6	T7	T8	T9	T10	CM 2	
-	10	10	10	10	10	5	10	10	10	5	10	

The final control includes semester control.

A higher education applicant is considered admitted to semester control if he or she has completed all the classroom training sessions provided for in the work program for the educational component, has completed all the types of work provided for in the work program for the educational component.

Semester control is carried out in the form of a semester test on the educational component in the amount of educational material determined by the work program and within the time limits established by the curriculum. The results of the semester control in the form of a semester test are given on a 100-point scale and on the ECTS scale.

A higher education student receives a semester credit at the last lesson of the educational component based on the results of the current assessment and control of content modules. This type of final control does not involve any additional work, surveys or testing at the last class. Credit is given to higher education students who have scored the required minimum number of points during the current control (60 points and above), have no unexcused absences from practical classes and have fulfilled all the requirements provided for in the work program of the educational component.

The results are converted from one scale to another according to the table.

Rating scale

The sum of points on a 100-point scale	ECTS scale	Grade on an undifferentiated scale
90-100	A	credit
82-89	B	
74-81	C	
64-73	D	
60-63	E	
35-59	FX	not credit
1-34	F	

Higher education applicants who have received two semester credits are admitted to the *semester exam*.

CONTROL OF KNOWLEDGE AT EACH LESSON

Current control consists in assessing the level of preparedness of higher education students to perform specific work, the completeness and quality of mastering by higher education students of educational material on topics, content modules of the educational component and the performance of individual tasks in accordance with the work program of the educational component and is carried out by teachers during the semester. The forms and content of the current control, the distribution of points between individual control measures and tasks within one lesson (oral examination, control tests, written assignments) are determined by the department and communicated to higher education students at the beginning of the semester in which it is performed. The number of points received for each type of academic work in various forms of current control is posted to higher education students in the academic group journal.

Module 1

Content module 1: Structure and function of biomolecules.

Lesson 1.

Topic: The subject and tasks of molecular biology. Molecular mechanisms of intercellular signalling and transmembrane transport.

In the first lesson, higher education students do not receive points.

Lesson 2.

Topic: Macromolecules as objects of study in molecular biology. DNA replication and repair.

Rating grade, points	Criteria for grading
8-10	is awarded to a higher education applicant who, when answering questions, has demonstrated comprehensive, systematic, in-depth knowledge of the program material, demonstrates knowledge of information sources provided by the program and creatively uses this knowledge when answering problematic questions
5-7	is assigned to a higher education applicant who, when answering questions, showed full knowledge of the program material provided at the level of similar reproduction, but made some minor mistakes
3-4	is assigned to a higher education applicant who, when answering questions, showed full knowledge of the program material provided at the level of similar reproduction, but made significant mistakes
1-2	is assigned to a higher education applicant who, when answering questions, revealed insufficient knowledge of the basic program material to the extent necessary for further study and work provided for by the program at the level of reproductive reproduction

Lesson 3.**Topic: Gene expression and its regulation.**

Rating grade, points	Criteria for grading
8-10	is awarded to a higher education applicant who, when answering questions, has demonstrated comprehensive, systematic, in-depth knowledge of the program material, demonstrates knowledge of information sources provided by the program and creatively uses this knowledge when answering problematic questions
5-7	is assigned to a higher education applicant who, when answering questions, showed full knowledge of the program material provided at the level of similar reproduction, but made some minor mistakes
3-4	is assigned to a higher education applicant who, when answering questions, showed full knowledge of the program material provided at the level of similar reproduction, but made significant mistakes
1-2	is assigned to a higher education applicant who, when answering questions, revealed insufficient knowledge of the basic program material to the extent necessary for further study and work provided for by the program at the level of reproductive reproduction

Lesson 4.**Topic: Structural organisation of genomes of viruses and cellular organisms.**

Rating grade, points	Criteria for grading
8-10	is awarded to a higher education applicant who, when answering questions, has demonstrated comprehensive, systematic, in-depth knowledge of the program material, demonstrates knowledge of information sources provided by the program and creatively uses this knowledge when answering problematic questions
5-7	is assigned to a higher education applicant who, when answering questions, showed full knowledge of the program material provided at the level of similar reproduction, but made some minor mistakes
3-4	is assigned to a higher education applicant who, when answering questions, showed full knowledge of the program material provided at the level of similar reproduction, but made significant mistakes
1-2	is assigned to a higher education applicant who, when answering questions, revealed insufficient knowledge of the basic program material to the extent necessary for further study and work provided for by the program at the level of reproductive reproduction

Lesson 5.**Topic: Molecular mechanisms of ontogenesis.**

Rating grade, points	Criteria for grading
8-10	is awarded to a higher education applicant who, when answering questions, has demonstrated comprehensive, systematic, in-depth knowledge of the program material, demonstrates knowledge of information sources provided by the program and creatively uses this knowledge when answering problematic questions
5-7	is assigned to a higher education applicant who, when answering questions, showed full knowledge of the program material provided at the level of similar reproduction,

	but made some minor mistakes
3-4	is assigned to a higher education applicant who, when answering questions, showed full knowledge of the program material provided at the level of similar reproduction, but made significant mistakes
1-2	is assigned to a higher education applicant who, when answering questions, revealed insufficient knowledge of the basic program material to the extent necessary for further study and work provided for by the program at the level of reproductive reproduction

Content module 2: Structure and function of biomolecules.

Lesson 6.

Topic: Problems of mutagenesis and molecular mechanisms of hereditary diseases.

Rating grade, points	Criteria for grading
8-10	is awarded to a higher education applicant who, when answering questions, has demonstrated comprehensive, systematic, in-depth knowledge of the program material, demonstrates knowledge of information sources provided by the program and creatively uses this knowledge when answering problematic questions
5-7	is assigned to a higher education applicant who, when answering questions, showed full knowledge of the program material provided at the level of similar reproduction, but made some minor mistakes
3-4	is assigned to a higher education applicant who, when answering questions, showed full knowledge of the program material provided at the level of similar reproduction, but made significant mistakes
1-2	is assigned to a higher education applicant who, when answering questions, revealed insufficient knowledge of the basic program material to the extent necessary for further study and work provided for by the program at the level of reproductive reproduction

Lesson 7.

Topic: Regulation of the cell cycle. Apoptosis. Fundamentals of oncogenetics.

Rating grade, points	Criteria for grading
8-10	is awarded to a higher education applicant who, when answering questions, has demonstrated comprehensive, systematic, in-depth knowledge of the program material, demonstrates knowledge of information sources provided by the program and creatively uses this knowledge when answering problematic questions
5-7	is assigned to a higher education applicant who, when answering questions, showed full knowledge of the program material provided at the level of similar reproduction, but made some minor mistakes
3-4	is assigned to a higher education applicant who, when answering questions, showed full knowledge of the program material provided at the level of similar reproduction, but made significant mistakes
1-2	is assigned to a higher education applicant who, when answering questions, revealed insufficient knowledge of the basic program material to the extent necessary for further study and work provided for by the program at the level of reproductive reproduction

Lesson 8.

Topic: Methods of genetic engineering. Research of nucleic acids.

Rating grade, points	Criteria for grading
8-10	is awarded to a higher education applicant who, when answering questions, has demonstrated comprehensive, systematic, in-depth knowledge of the program material, demonstrates knowledge of information sources provided by the program and creatively uses this knowledge when answering problematic questions
5-7	is assigned to a higher education applicant who, when answering questions, showed full knowledge of the program material provided at the level of similar reproduction, but made some minor mistakes
3-4	is assigned to a higher education applicant who, when answering questions, showed full knowledge of the program material provided at the level of similar reproduction, but made significant mistakes
1-2	is assigned to a higher education applicant who, when answering questions, revealed insufficient knowledge of the basic program material to the extent necessary for further study and work provided for by the program at the level of reproductive reproduction

Lesson 9.

Topic: Transgenic organisms. Gene therapy.

Rating grade, points	Criteria for grading
8-10	is awarded to a higher education applicant who, when answering questions, has demonstrated comprehensive, systematic, in-depth knowledge of the program material, demonstrates knowledge of information sources provided by the program and creatively uses this knowledge when answering problematic questions
5-7	is assigned to a higher education applicant who, when answering questions, showed full knowledge of the program material provided at the level of similar reproduction, but made some minor mistakes
3-4	is assigned to a higher education applicant who, when answering questions, showed full knowledge of the program material provided at the level of similar reproduction, but made significant mistakes
1-2	is assigned to a higher education applicant who, when answering questions, revealed insufficient knowledge of the basic program material to the extent necessary for further study and work provided for by the program at the level of reproductive reproduction

Lesson 10.

Topic: Cloning of organisms.

Rating grade, points	Criteria for grading
5	is awarded to a higher education applicant who, when answering questions, has demonstrated comprehensive, systematic, in-depth knowledge of the program material, demonstrates knowledge of information sources provided by the program and creatively uses this knowledge when answering problematic questions
4	is assigned to a higher education applicant who, when answering questions, showed full knowledge of the program material provided at the level of similar reproduction, but made some minor mistakes

3	is assigned to a higher education applicant who, when answering questions, showed full knowledge of the program material provided at the level of similar reproduction, but made significant mistakes
1-2	is assigned to a higher education applicant who, when answering questions, revealed insufficient knowledge of the basic program material to the extent necessary for further study and work provided for by the program at the level of reproductive reproduction

CONTROL OF CONTENT MODULES

The control of the content module (CM1, CM2) is carried out at the last practical lesson of the topics of the content module according to the calendar plan for the current academic year.

Only those applicants for higher education who have completed all types of work provided for by the curriculum (worked out all missed classes, etc.) are allowed to control the CM.

Control of the content module 1.

A written questionnaire is a means of diagnosing the level of training of higher education applicants. The questionnaire consists of two theoretical questions (the higher education applicant is given from 0 to 4 points) and 1 practical question (the higher education applicant is given from 0 to 2 points). The maximum number of points that a higher education applicant can receive is 10, the minimum is 6.

Criteria for awarding points for answering a theoretical question:

Points	Criteria for grading
4	It is awarded to a higher education applicant who, when answering questions, has demonstrated comprehensive, systematic, in-depth knowledge of the program material, is able to demonstrate the knowledge provided at the level of creative use
3	It is awarded to a higher education applicant who, when answering questions, showed complete knowledge of the program material provided at the level of similar reproduction, but made several minor mistakes or one or two major mistakes.
2	It is assigned to a higher education applicant who, when answering questions, revealed insufficient knowledge of the basic program material, to the extent necessary for further study and work provided for by the program at the level of reproductive reproduction, and generally coped with the task
1	It is assigned to a higher education applicant who, when answering questions, revealed serious gaps in knowledge of the basic material, made fundamental mistakes

Criteria for awarding points for answering a practical question:

Points	Criteria for grading
2	It is awarded to a higher education applicant who, when answering questions, has demonstrated comprehensive, systematic, in-depth knowledge of the program material, is able to demonstrate the knowledge provided at the level of creative use
1	It is assigned to a higher education applicant who, when answering questions, revealed serious gaps in knowledge of the basic material, made fundamental mistakes

Control of the content module 2.

A written survey is a means of diagnosing the level of training of higher education applicants. The ticket consists of two theoretical questions (the applicant for higher education is given from 0 to 4 points) and 1 practical question (the applicant for higher education is given from 0 to 2 points). The maximum number of points that a higher education applicant can receive is 10, the minimum is 6.

Criteria for awarding points for answering a theoretical question:

Points	Criteria for grading
4	It is awarded to a higher education applicant who, when answering questions, has demonstrated comprehensive, systematic, in-depth knowledge of the program material, is able to demonstrate the knowledge provided at the level of creative use
3	It is awarded to a higher education applicant who, when answering questions, showed complete knowledge of the program material provided at the level of similar reproduction, but made several minor mistakes or one or two major mistakes.
2	It is assigned to a higher education applicant who, when answering questions, revealed insufficient knowledge of the basic program material, to the extent necessary for further study and work provided for by the program at the level of reproductive reproduction, and generally coped with the task
1	It is assigned to a higher education applicant who, when answering questions, revealed serious gaps in knowledge of the basic material, made fundamental mistakes

Criteria for awarding points for answering a practical question:

Points	Criteria for grading
2	It is awarded to a higher education applicant who, when answering questions, has demonstrated comprehensive, systematic, in-depth knowledge of the program material, is able to demonstrate the knowledge provided at the level of creative use
1	It is assigned to a higher education applicant who, when answering questions, revealed serious gaps in knowledge of the basic material, made fundamental mistakes

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