

**ESTIMATION OF THE DISCIPLINE  
BIOLOGICAL CHEMISTRY**

Mark is given to those only students which have all concept modules on discipline passed. Quantity of points, which are collected by a student on the discipline is determined as a sum of quantity of points for concept modules and final control on discipline.

**Rating system of estimation**

<b>Module I.</b> Structure of biological macromolecules. Principles of metabolism				<b>Module II.</b> Metabolism and its regulation			
Current control			Module control	Current control			Module control
CM1 Structure, occurrence and biological role of proteins	CM2 Structure and functions of biomolecules	CM3 Introduction into metabolism		CM4 Metabolism of carbohydrates and lipids	CM5 Metabolism of proteins	CM6 Integration and regulation of metabolism	
20	20	20	40	20	20	20	40
100				100			
<b>200/2</b>							

**EVALUATION CRITERIA OF KNOWLEDGE AND SKILLS  
IN CONDUCTING THE THEMATIC MODULE №1  
DISCIPLINE "BIOLOGICAL CHEMISTRY"**

The control of the thematic module №1 (TM1) is carried out at the last practical lesson of the content module in accordance with the calendar plan for the current academic year.

Only those applicants of higher education, who have completed all types of works that are envisaged by the curriculum (spent on missed all seminars, etc.), are allowed to control M1. A means of diagnosing the level of education for higher education graduates is a written survey. The maximum amount of points for controlling the mastering of the content module is 15 points, the minimum is 9 points. Structure of the examination paper: 2 theoretical questions - the applicant of higher education is exposed from 0 to 2 points (see table).

**EVALUATION OF THE THEORETICAL QUESTION  
(for the theoretical question is exposed from 0 to 2 points)**

<b>Rating score, points</b>	<b>Evaluation criteria</b>
2,0	is offered to the applicant who, upon answering the questions, has revealed comprehensive, systematic, deep knowledge of the program material, demonstrates the knowledge of the information sources provided by the program and creatively uses this knowledge when answering the problematic issues
1,5	applicants put that in answering the questions found full knowledge of program material provided at the same play, but suggested some minor bugs
1,0	exposed to the applicant who, upon answering a question, showed full knowledge of the software material provided at the level of similar playback, but suggested significant errors
0,5	is offered to the applicant who, at the answer to the questions, revealed insufficient knowledge of the basic software material to the extent necessary for the further study and work provided by the program at the reproductive reproduction level

**EVALUATION CRITERIA KNOWLEDGE AND SKILLS  
IN CONDUCTING THE THEMATIC MODULE №1  
DISCIPLINE "BIOLOGICAL CHEMISTRY"**

The control of the thematic module №2 (TM2) is carried out at the last practical lesson of the content module in accordance with the calendar plan for the current academic year.

Only those applicants of higher education, who have completed all types of works that are envisaged by the curriculum (spent on missed all seminars, etc.), are allowed to control TM2. A means of diagnosing the level of education for higher education graduates is a written survey. The maximum amount of points for controlling the mastering of the content module is 15 points, the minimum is 9 points. Structure of the examination paper: 2 theoretical questions - the applicant of higher education is exposed from 0 to 4 points (see table).

**EVALUATION OF THE THEORETICAL QUESTION  
(for the theoretical question is exposed from 0 to 2 points)**

<b>Rating score, points</b>	<b>Evaluation criteria</b>
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4	is offered to the applicant who, upon answering the questions, has revealed comprehensive, systematic, deep knowledge of the program material, demonstrates the knowledge of the information sources provided by the program and creatively uses this knowledge when answering the problematic issues
3	applicants put that in answering the questions found full knowledge of program material provided at the same play, but suggested some minor bugs
2	exposed to the applicant who, upon answering a question, showed full knowledge of the software material provided at the level of similar playback, but suggested significant errors
1	is offered to the applicant who, at the answer to the questions, revealed insufficient knowledge of the basic software material to the extent necessary for the further study and work provided by the program at the reproductive reproduction level

**EVALUATION CRITERIA KNOWLEDGE AND SKILLS  
IN CONDUCTING THE THEMATIC MODULE №3  
DISCIPLINE "BIOLOGICAL CHEMISTRY"**

The control of the thematic module №3 (TM3) is carried out at the last practical lesson of the content module in accordance with the calendar plan for the current academic year.

Only those applicants of higher education, who have completed all types of works that are envisaged by the curriculum (spent on missed all seminars, etc.), are allowed to control TM3. A means of diagnosing the level of education for higher education graduates is a written survey. The maximum amount of points for controlling the mastering of the content module is 3 points, the minimum is 1 points. Structure of the examination paper: 1 theoretical question - the applicant of higher education is exposed from 0 to 3 points (see table).

**EVALUATION OF THE THEORETICAL QUESTION  
(for the theoretical question is exposed from 0 to 3 points)**

<b>Rating score, points</b>	<b>Evaluation criteria</b>
3	is offered to the applicant who, upon answering the questions, has revealed comprehensive, systematic, deep knowledge of the program material, demonstrates the knowledge of the information sources provided by the program and creatively uses this knowledge when answering the problematic issues

2	exposed to the applicant who, upon answering a question, showed full knowledge of the software material provided at the level of similar playback, but suggested significant errors
1	is offered to the applicant who, at the answer to the questions, revealed insufficient knowledge of the basic software material to the extent necessary for the further study and work provided by the program at the reproductive reproduction level

**EVALUATION CRITERIA KNOWLEDGE AND SKILLS  
IN CONDUCTING THE THEMATIC MODULE №4  
DISCIPLINE "BIOLOGICAL CHEMISTRY"**

The control of the thematic module №4 (TM4) is carried out at the last practical lesson of the content module in accordance with the calendar plan for the current academic year.

Only those applicants of higher education, who have completed all types of works that are envisaged by the curriculum (spent on missed all seminars, etc.), are allowed to control TM4. A means of diagnosing the level of education for higher education graduates is a written survey. The maximum amount of points for controlling the mastering of the content module is 15 points, the minimum is 9 points. Structure of the examination paper: 2 theoretical questions - the applicant of higher education is exposed from 0 to 2 points (see table).

**EVALUATION OF THE THEORETICAL QUESTION  
(for the theoretical question is exposed from 0 to 2 points)**

<b>Rating score, points</b>	<b>Evaluation criteria</b>
2,0	is offered to the applicant who, upon answering the questions, has revealed comprehensive, systematic, deep knowledge of the program material, demonstrates the knowledge of the information sources provided by the program and creatively uses this knowledge when answering the problematic issues
1,5	applicants put that in answering the questions found full knowledge of program material provided at the same play, but suggested some minor bugs
1,0	exposed to the applicant who, upon answering a question, showed full knowledge of the software material provided at the level of similar playback, but suggested significant errors
0,5	is offered to the applicant who, at the answer to the questions, revealed insufficient knowledge of the basic software material to the extent necessary for the further study and work

	provided by the program at the reproductive reproduction level
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**EVALUATION CRITERIA KNOWLEDGE AND SKILLS  
IN CONDUCTING THE THEMATIC MODULE №5  
SUBJECT "BIOLOGICAL CHEMISTRY"**

The control of the thematic module №5 (TM5) is carried out at the last practical lesson of the content module in accordance with the calendar plan for the current academic year.

Only those applicants of higher education, who have completed all types of works that are envisaged by the curriculum (spent on missed all seminars, etc.), are allowed to control 5 A means of diagnosing the level of education for higher education graduates is a written survey. The maximum amount of points for controlling the mastering of the content module is 4 points, the minimum is 1 points. Structure of the examination paper: 2 theoretical question - the applicant of higher education is exposed from 0 to 4 points (see table).

**EVALUATION OF THE THEORETICAL QUESTION**  
(for the theoretical question is exposed from 0 to 5 points)

<b>Rating score, points</b>	<b>Evaluation criteria</b>
4	is offered to the applicant who, upon answering the questions, has revealed comprehensive, systematic, deep knowledge of the program material, demonstrates the knowledge of the information sources provided by the program and creatively uses this knowledge when answering the problematic issues
3	exposed to the applicant who, upon answering a question, showed full knowledge of the software material provided at the level of similar playback, but suggested significant errors
1-2	is offered to the applicant who, at the answer to the questions, revealed insufficient knowledge of the basic software material to the extent necessary for the further study and work provided by the program at the reproductive reproduction level

**EVALUATION CRITERIA KNOWLEDGE AND SKILLS  
IN CONDUCTING THE THEMATIC MODULE №6  
SUBJECT "BIOLOGICAL CHEMISTRY"**

The control of the thematic module №6 (TM6) is carried out at the last practical lesson of the content module in accordance with the calendar plan for the current academic year.

Only those applicants of higher education, who have completed all types of works that are envisaged by the curriculum (spent on missed all seminars, etc.), are allowed to control 6 A means of diagnosing the level of education for higher education graduates is a written survey. The maximum amount of points for controlling the mastering of the content module is 4 points, the minimum is 1 points. Structure of the examination paper: 2 theoretical question - the applicant of higher education is exposed from 0 to 5 points (see table).

**EVALUATION OF THE THEORETICAL QUESTION**  
(for the theoretical question is exposed from 0 to 5 points)

<b>Rating score, points</b>	<b>Evaluation criteria</b>
5	is offered to the applicant who, upon answering the questions, has revealed comprehensive, systematic, deep knowledge of the program material, demonstrates the knowledge of the information sources provided by the program and creatively uses this knowledge when answering the problematic issues
3-4	exposed to the applicant who, upon answering a question, showed full knowledge of the software material provided at the level of similar playback, but suggested significant errors
1-2	is offered to the applicant who, at the answer to the questions, revealed insufficient knowledge of the basic software material to the extent necessary for the further study and work provided by the program at the reproductive reproduction level

**CRITERIA FOR EVALUATION OF KNOWLEDGE OF HIGHER EDUCATION APPLICANTS FOR THE FINAL MODULE CONTROL OF THE DISCIPLINE "BIOLOGICAL CHEMISTRY"**

Final module controle (FMC) is carried out after the completion of the study of module 1 in the final control sessions. Only those higher education graduates who are recruited for the current activity at the end of the vitamin module, at least 36 points (the amount of points for each current class and the control of content modules, see the schedule) are admitted to the FMC. The total amount for the FMC is maximum 40 points. The FMC is considered to be enrolled if a higher education student has scored at least 25 points.

Means for diagnosing the level of training for higher education:

1. Written theoretical survey, the ticket consists of 5 theoretical issues.
2. SUNRAW test (100 tests each).

The structure of the evaluation of tasks for FMC:

- For one theoretical question to a higher education student is exposed from 4 points (see table), generally from 0 to 20 points.

- The score for the answers to the multiple choice questions starts with the 81st test and is scored at 1 point for the test, thus the maximum number of points is: 20.

- The total number of points for the FMC is the arithmetic sum of these two tasks.

When developing the evaluation criteria, the completeness and correctness of the answer to the question are taken as a basis. In addition, the ability of higher education graduates to differentiate, integrate and unify knowledge is taken into account.

**EVALUATION OF THEORETICAL ISSUES**  
(for one theoretical question is exposed from 0 to 4 points)

<b>Rating score, points</b>	<b>Criteria for evaluation</b>
3-4	is exhibited by a higher education student who, upon answering the questions, has shown comprehensive, systematic, deep knowledge of the program material, demonstrates the knowledge of the information sources provided by the program and creatively uses this knowledge when answering the problematic issues.
2-3	is exhibited by a higher education student who, upon answering a question, showed full knowledge of the program material, provided at the level of similar reproduction, but suggested some minor failures
1-2	is exhibited by a higher education student who, when answering a question, revealed insufficient knowledge of the main software material to the extent necessary for further study and work provided by the program at the reproductive level
0-1	If, upon answering the question, the applicant of higher education revealed serious gaps in the knowledge of the main material, committed fundamental errors

Mark is given to those only students which have all concept modules on discipline passed. Quantity of points, which are collected by a student on the discipline is determined as a sum of quantity of points for concept modules and final control on discipline.

**Rating system of estimation**

<b>Module I.</b> Structure of biological macromolecules. Principles of metabolism	<b>Module II.</b> Metabolism and its regulation
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Current control			Module control	Current control			Module control
CM1	CM2	CM3		CM4	CM5	CM6	
Structure, occurrence and biological role of proteins	Structure and functions of biomolecules	Introduction into metabolism	Module control	Metabolism of carbohydrates and lipids	Metabolism of proteins	Integration and regulation of metabolism	Module control
20	20	20	40	20	20	20	40
100				100			
<b>200/2</b>							

Total rating on the discipline equals to sum of points for current control and final module control (points for *Module I + Module II*) : 2.

Quantity of points on the discipline, which is counted for each student, corresponds to certain rating on ECTS scale and is converted into national scale in such a way:



### Control of student's progress in study

National Scale	ECTS Scale	Rating estimate, points
<b>5</b> - excellent	A - excellent	90 - 100
<b>4</b> - very good	B - very good	84 – 89
<b>4-</b> - good	C - good	75 - 83
<b>3</b> - satisfactory	D - satisfactory	68 – 74
<b>3-</b> - enough	E - enough (satisfies minimal criteria)	60 – 67
<b>2</b> - unsatisfactory	FX - unsatisfactory	35 – 59
<b>Not admitted</b>	F - unsatisfactory (additional work is needed)	1 - 34

Estimates on discipline FX or F are given to students which have not passed at least one concept module on discipline after it is finished.

Mark FX - “2” is given to those students, which have got minimal quantity of points for current studying activity but haven't passed final module control. They may try to pass that control for the second time, but not more than twice during winter vacation and during 2 (additional) weeks after spring semester is finished according to the schedule approved by rector.

Students which got mark F - “2” after discipline is finished (did not realize the program for study at least for one module or not get minimal quantity of points for current studying activity for module) must pass through repeated training according to an individual schedule of study.