

Module name:	<b>Methodology of Teaching Biology</b>
semester will read:	5/6/7
Teachers:	Almamatova Zebo Khudaiberdiyevna, Doctor of Philosophy (PhD) in Pedagogical Sciences, Senior Teacher
Language:	Uzbek
Educational connection with the plan:	BO'M3411
Work load:	Total workload: 510 h Contact hours: Lecture-90 h Practice-120 hours Seminar 30 SRS 270 h
Credit points:	17
of submitting the exam terms:	subject to at least 100 points on the exam access given to the students must collect 50 points.
Expected learning outcomes:	<p><b>Know: methods of teaching biology</b> science is the content of the program, technologies to be implemented in the educational process of their education and the education system of modern trends, credit modules in your system to be implemented in the educational process, and the digitization of the educational process oliy education in the mechanisms of the formation of the modern system of evaluation of the activities of teachers about the <b>use of them to take</b></p> <p><b>the skills to be able to:</b> subject specialist teaching in higher and secondary special institutions of general secondary education and the basic principles and features of previous sessions holding effective meetings uniqueness; independent work of students independent learning and organizational forms and methods; methods of educational activities in the development process; education in the process of getting self-nurturing to get the structure of the program; and its requirements to the professional preparation of teachers in modern conditions; the concept of the quality of the educational process of institutions of higher education; education, providing quality factors; methods of assessment of the quality of education; the education system on the monitoring of knowledge and <b>skills should be able to</b></p> <p><b>The show:</b> based on the experiences of research activities including the conduct of foreign scientific work. <b>Biology teachingwhile</b></p>
Content:	<p>The content</p> <ol style="list-style-type: none"> <li>1. Goals and objectives of biology teaching methods</li> <li>2. The role of biological education in the development of a mature personality.</li> <li>3. The period of the Renaissance of the East and the development of educational issues in it.</li> <li>4. Features of teaching science at Jadidlar's school</li> <li>5. History of the development of biology teaching methods</li> <li>6. The state education standards and analysis of biology curricula</li> <li>7. Ways to include basic and subject-specific competencies in biology teaching</li> <li>8. Formation of independent and creative thinking among students in biology lessons.</li> <li>9. Analysis of school biology textbooks. Science textbook analysis</li> <li>10. Analysis of a 7th grade biology textbook.</li> <li>11. Analysis of the textbook "Man and his health"</li> <li>12. Analysis of a biology textbook (cytology and genetics).</li> <li>13. Analysis of a 10th grade biology textbook.</li> </ol>

	14. Analysis of the 11th grade biology textbook 15. Methods and techniques used in teaching biology 16. Demonstration, practical methods used in teaching biology and their composition, methods and their types. 17. Active methods of teaching biology 18. PISA general information about the study 19. Methodology for conducting and organizing the PISA study 20. International assessment studies PISA, PIRLS, TIMMS and their features 21. Best foreign experience in teaching biology 22. General classification of the use of pedagogical technologies in biology lessons 23. Technology of educational differentiation. Specific aspects of the technology of individualization of education. 24. The use of developing educational technologies in biology lessons. 25. Local technologies used in biology lessons. 26. The use of didactic gaming technologies in biology lessons. 27. Features of the use of problematic educational technologies in biology lessons 28. The use of modular educational technologies in teaching biology 29. Using collaborative learning technologies in teaching biology 30. The use of interactive educational technologies in teaching biology 31. Design of the process of using educational diagnostic and assessment tools in biology lessons 32. The use of information and communication technologies in teaching biology. 33. Features of the formation of entrepreneurial activity of students in biology lessons 34. Teaching tools. 35. The importance of planning an annual perspective and thematic calendar in biology. 36. Formation of biological concepts in students according to chapters and topics of the curriculum. 37. Interrelation of forms of teaching biology 38. Lesson is the main form of teaching. 39. Organization and conduct of extracurricular activities in biology 40. Organization and conduct of biological excursions. 41. Extracurricular activities in biology 42. Homework 43. Material base for teaching biology. 44. A website for educational experiments 45. Education in the process of teaching Biology
Form of exam:	a comprehensive exam, including: <b>methods of teaching Biology -written</b>
Technical/multimedia:	Multimedia proyektor, the interactive device, computer equipment, laboratory equipment.
Literature:	1. G'ofurov t. a., j. o. Tolipova and others. Methods of teaching biology. Textbook for higher educational institutions. Tashkent, 2013. 2. Tolipova j. o., t. a. G'ofurov biology education technologies. Methodological guide "teachers" publishing house, Tashkent, 2002. 3. M. h. the theory and history of pedagogy to'xtaxo'jaev // – T.: "finance and economics", 2008. 4. Innovative technologies policy tolipova j. o. central to biology teaching.

	<p>Textbook for students of pedagogical higher education institutions. Tashkent, 2014. 220</p> <p>5. Shaxmurova g. a., T. i. azimov, e. u. issues and solve the exercises from biology Rakhmatov. Training guide. "Literature" the spark of the publishing house. Tashkent, 2017</p> <p>6. Shaxmurova G. U. Rakhmatov, Xo'janazarov O'., In reception, G. "the teaching of biological sciences" training module-methodical complex. Tashkent, 2017.</p> <p>7. N. s. Sayidahmedov new pedagogical technologies. – T.: Finance, 2003.</p> <p>8. Urazova M. B. Eshpulatov Sh.N. The teacher of the future design activities. Methodical guide. – T.: TDP, 2014</p> <p>9. Muslimov n. a. and others. Kompetentlik the formation of vocational education teachers ' professional technology. Tashkent, "science and technology", 2013</p> <p>10. <a href="https://lib.jdpu.uz/library">https://lib.jdpu.uz/library</a></p> <p>11. <a href="http://www.ziyonet.uz">http://www.ziyonet.uz</a>.</p> <p>12. <a href="http://www.pedagog.uz">http://www.pedagog.uz</a>.</p> <p>13. <a href="http://www.tdpu.uz">www.tdpu.uz</a></p>
Scope of assessment criteria and procedure	<p><b>CURRENT CONTROL</b></p> <p><b>Purpose:</b> Determining and assessing the student's level of knowledge, practical skills, and competencies on course topics.</p> <p><b>Instructions:</b> The student's activity in daily classes is assessed through the student's mastery of course topics, as well as constructively interpreting and analyzing the educational material, developing module-specific skills, acquiring practical skills (in terms of quality and the specified number) and competencies, solving problem situations aimed at applying professional practical skills, working in a team, preparing presentations, etc.</p> <p><b>Current control form:</b></p> <ul style="list-style-type: none"> <li>Activity in lessons</li> <li>Preparing educational materials</li> <li>Working with sources within the subject</li> <li>Using educational technologies</li> <li>Working in a team</li> <li>Preparing presentations</li> <li>Working with projects</li> </ul> <p><b>INTERMEDIATE CONTROL</b></p> <p><b>Purpose:</b> Assessing the student's knowledge and practical skills and level of mastery of lecture material after completing the relevant section of the course.</p> <p><b>Form and procedure of intermediate control:</b> Midterm examination is held during the semester during the training sessions after the completion of the relevant module of the curriculum of the subject. Midterm examination is held once in written form within the framework of this subject. Midterm examination questions cover all topics of the subject.</p> <p><b>Independent learning:</b></p> <p><b>Purpose:</b> Independent learning is aimed at fully covering the content of this course, expanding the theoretical knowledge acquired, and establishing independent learning activities for students.</p> <p><b>Form and procedure of independent education:</b> Independent work assignments are completed in the form of an educational project, presentation, case study, problem solving, information search, digest, colloquium, essay, article, abstract, etc.</p> <p>Completed assignments for independent study are placed in the electronic</p>

system and checked based on the anti-plagiarism program and evaluated by the subject teacher.

In this case, the uniqueness of the completed assignment should not be less than 60%, otherwise the assignment will not be accepted for assessment.

The number of independent work assignments, depending on the nature of the subject, should not be less than 3 for one subject (module).

Independent work assignments account for 60% of the points allocated for current and intermediate control.

Independent learning task 1: Preparation of project work based on independent learning topics

Independent learning task 2: Preparing sample video lessons based on specialized subject topics.

Independent learning task 3: Preparation of open lesson plans in specialized subjects using interactive methods.

Independent learning task 4: Analysis of educational normative documents for specialized subjects and preparation of presentations.

**FINAL CONTROL**

**Purpose:** The final examination is held at the end of the semester to determine the level of mastery of the student's theoretical knowledge and practical skills in the relevant subject. The final examination is held at a specified time according to the examination schedule created by the Registrar's Office on the electronic platform.

**Requirements:** The student must have passed the current control, intermediate control and independent learning assignments by the deadline for the final control type in the relevant subject.

A student who has not passed the current control, intermediate control and independent learning assignments, as well as who has received a score in the range of "0-29.9" for these assignments and control types, is not included in the final control type.

Also, a student who has missed 25 percent or more of the classroom hours allocated to a subject without a reason is excluded from this subject and is not included in the final control type and is considered not to have mastered the relevant credits in this subject.

A student who has not passed or was not included in the final control type and has received a score in the range of "0-29.9" for this type of control is considered to be an academic debtor.

**Final control form:** The final examination in this subject will be conducted in written form.

If the final examination is conducted in written form, the requirements for assessment must also be reflected.

Criteria for assessing student knowledge	<b>5 stars</b>	<b>100 points</b>		<b>Evaluation criteria</b>
--	----------------	-------------------	--	----------------------------

				When a student is considered to be able to make independent conclusions and
--	--	--	--	---

	5	90-100	Excel	decisions, think creatively, observe independently, apply the knowledge he has
--	---	--------	-------	--

	9	90-100	lent	gained in practice, understand, know, express, and narrate the essence of the
--	---	--------	------	---

				subject (subject), and have an idea about the subject (subject)
--	--	--	--	---

Criteria for assessing student knowledge	<b>5 stars</b>	<b>100 points</b>		<b>Evaluation criteria</b>
	5	90-100	Excellent	When a student is considered to be able to make independent conclusions and decisions, think creatively, observe independently, apply the knowledge he has gained in practice, understand, know, express, and narrate the essence of the subject (subject), and have an idea about the subject (subject)

	4	70-89,9	Good	When the student is considered to be able to observe independently, apply the knowledge he has gained in practice, understand, know, express, and narrate the essence of the subject (subject), and has an idea about the subject (subject)		
	3	60-69,9	Satisfactory	When the student is found to be able to apply the knowledge he has gained in practice, understands, knows, can express, and narrate the essence of the subject (subject), and has an idea about the subject (subject)		
	2	0-59,9	Unsatisfactory	When it is determined that the student has not mastered the science program, does not understand the essence of the science (subject), and does not have an idea about the science (subject)		
Course evaluation criteria and procedure	Control type		Total points allocated	Control (task) form	Distribution of points	Qualifying score
	Current control	30 points		System tasks	20 points (divided by the number of tasks)	18 points
				Student activity (in seminars, practical, laboratory classes)	10 points	
	Intermediate control	20 points		Supervision: Written work	10 points	12 points
				System tasks	10 points (divided by the number of tasks)	
	Final inspection	50 points		Written assignment (5 questions)	50 points (10 points per question)	30 points
	* <b>Note:</b> 60% of the points allocated for current and intermediate control are allocated to independent work assignments. Independent work assignments are evaluated as system assignments through the electronic platform.					