Name of the Discipline	Modern Approaches and Innovations in Teaching Biology
Semester(s)	2
Responcible teacher	Azimova Dilnoz Ergashevna, Doctor of Philosophy (PhD) in Biological Sciences, Associate Professor
Language of teaching/learning	Uzbek
Connection to the curriculum	Optional
Academic workload (including contact hours and self-study)	Total workload: 120 hours Contact hours – lectures 30 hours Practical lessons 30 hours. Self -ftudy of masters 60 hours.
ECTS	4
Prerequisites	Methodology of teaching biology, Methodology of teaching special subjects
Discipline objectives / learning outcomes	**Goals and objectives:** The purpose of the discipline is to expand the pedagogical thinking of future specialists, develop their professional competence as a result of the use of modern innovative technologies in teaching biology. **Learning outcomes:** classify innovative technologies of teaching biology; - evaluate the features of modern biology lessons; - determine the essence of communicative learning technologies; - take advantage of biology learning opportunities using the Internet; - determine the use of information technology in teaching biology - practice distance technologies in teaching biology. - compare technologies and methods that serve to increase the effectiveness of biological education; - determine the role of innovative technologies in the process of improving the quality of education - distinguish between methods of teaching biology and modern innovative technologies, styles and methods; - prove that the use of information and communication technologies in teaching biology is effective.
Contents of classes	1. The content of technological orientation in the educational process. 2. Modern traditional teaching technology. 3. Organization and management of masters' educational activities in teaching biology. 4. The use of group games in extracurricular activities of masters at school in the context of modern biology education 5. Technology of using modeling in meta-subject results in teaching biology. 6. Using visualization technology in teaching biology. 7. The use of virtual technologies in teaching biology. 8. Using AR cases in developing masters' natural science competence. 9. Using mobile technologies in teaching biology. 10. Organization of reflective activities in teaching biology. 11. The use of developmental technologies in teaching biology. 12. Programmed educational technologies. 13. Identification of the competencies of biology teachers. 14. Classification of research methods and scientific technologies in teaching biology.

	15Features of using key stage technologies in teaching biology.
The exam format	Oral
Requirements for education and exams	When creating final exam questions, deviations from the content of the discipline program are not allowed. The bank of final exam questions for each subject is discussed at the meeting and approved by the head of the department. When compiling final exam tickets, the IR question bank is used; the number of questions in the ticket should be in a 50/50 ratio, depending on the content of classroom and self study. No later than 1 week before the start of the final control, tickets approved by the head of the department, enclosed in an envelope, are sealed by the dean's office and opened 5 minutes before the start of the exam in the presence of masters. A master who has chosen an final exam ticket is given 5-10 minutes to prepare and 10-15 minutes to answer final exam questions orally. On average, 20 minutes are spent per master. When forming the composition of the oral examination commission, 1 commission member is approved for every 15 masters. The master's final exam grade is posted on the electronic platform on the same day. Master(s) who are dissatisfied with the final exam results may submit a written or oral appeal within 24 hours of the publication of the final exam results. Complaints submitted after 24 hours from the publication of the EC results will not be accepted. The teacher who taught the masters in this subject is not involved in the process of conducting the exam and checking the masters' answers.
Bibliography	1. Ж.О.Талипова. Педагогические технологии в преподавание биологии. // Ташкент. 2011 г. 2. А.Т. Гофуров и др. Общая методика преподавание биологии// Ташкент. 2013 г. 3.Tara Rodden Rjbinson Fssistant Professor (Reseach), Oregon State University “Genetics For Dummies” Coyright 2005 by Wiley Publishing, Inc., Indianapolis, Indiana.
Scope of assessment criteria and procedure	**CURRENT CONTROL** **Purpose:** Determining and assessing the master's level of knowledge, practical skills, and competencies on course topics. **Instructions:** The master's activity in daily classes is assessed through the master'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. **Current control form:** Activity in lessons Preparing educational materials Working with sources within the subject Using educational technologies Working in a team Preparing presentations Working with projects **INTERMEDIATE CONTROL** **Purpose:** Assessing the master's knowledge and practical skills and level of mastery of lecture material after completing the relevant section of the course. **Form and procedure of intermediate control:** 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. **Independent learning:** **Purpose:** Independent learning is aimed at fully covering the content of this course, expanding the theoretical knowledge acquired, and establishing independent learning activities for masters. **Form and procedure of independent education:** ndependent work assignments are completed in the form of an educational project, presentation, case study, problem solving, information search, digest, colloquium, essay, article, abstract, etc. Completed assignments for independent study are placed in the electronic 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 master'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 master 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 master 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 master 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 master 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 master knowledge

5 stars	100 points		Evaluation criteria
5	90-100	Excel lent	When a master 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 master 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 master 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 master 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
		Master 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

	**** Note:*** *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.*