

Discipline designation	Scientific Practice
Semester(s) in which the discipline is taught	4
Teacher in charge	Sultanov Marat Mirzayevich, Doctor of Chemical Sciences (DSc), Professor Rashidova Komila Khamidovna, Doctor of Philosophy (PhD) in Chemical Sciences, Associate Professor Muminova Nargiza Ismatullayevna, Doctor of Philosophy (PhD) in Chemical Sciences, Associate Professor
Teaching language	Uzbek
Connection to the curriculum	Mandatory
Education forms	lecture, seminar and SsIW
Academic pŷrkk (including contact hours, SsIW)	Total hours: 180 hours
ECTS	6
Prerequisites	
Discipline objectives / Learning Outcomes	<p>The purpose of the discipline is to prepare a master's student for independent research work, the main result of which is the writing and successful defense of a master's thesis.</p> <p>Learning outcomes</p> <ul style="list-style-type: none"> - the ability to apply methods of scientific knowledge in independent research activities, generate and implement innovative ideas; - own the methodology of scientific knowledge, be able to analyze and evaluate the content and level of philosophical and methodological problems when solving problems of research and innovation activities; - master the techniques and methods of personal and professional development of a teacher-researcher, building a professional career and pedagogical ideals, norms and principles of pedagogical and scientific ethics, individual abilities and inclinations; - design and carry out complex research, including interdisciplinary research, based on a holistic systemic scientific worldview using knowledge in the field of Biology and methods of its teaching; - have the skills to use modern information technologies to solve research and innovation problems; - carry out research activities in the field of Biology and methods of teaching it using modern research methods and information and communication technologies; - master the techniques and methods of personal and professional development of a teacher-researcher, building a professional career and pedagogical ideals, norms and principles of pedagogical and scientific ethics, individual abilities and inclinations; - adapt the results of modern chemical and pedagogical research to solve methodological problems existing in the educational system.

Lessons' contents	<ol style="list-style-type: none"> 1. Selecting a topic for research work, justifying its relevance 2. Approval of a plan for research work, determination of specific volumes and directions of scientific research (drawing up and approval of an individual work plan for a master's student); 3. Preparation of an analytical review of the literature on the research topic 4. Development of experimental methodology 5. Carrying out theoretical and experimental work on the research topic 6. Material testing 7. Presentation of theoretical research results at conferences 8. Development and justification of author's proposals, principles, approaches, interpretations 9. Experimental testing 10. Preparation of text and demonstration material
The exam format	Preparation of the report and its protection
Teaching/learning and examination requirements	<p>No more than 2 days are allotted for drawing up the final report, during which undergraduates put their individual plan in order, prepare written reports, and prepare presentations. Each undergraduate submits the following materials:</p> <ul style="list-style-type: none"> - Report text; - Individual plan and characteristics from the supervisor; - Presentations of master's students-interns in electronic form. <p>The credit for research activities (practice) is accepted by the commission in accordance with the approved order, in the presence of all undergraduates and their supervisors. During the certification, the competencies of master's students-interns, which they mastered in the process of carrying out research activities (practice), are assessed.</p>
Bibliography	<ol style="list-style-type: none"> 1. Магистрлик диссертацияларини тайёрлаш бўйича методик тавсиянома: магистратура бўлимининг барча мутахассисликлари учун мўлжалланган. – Т: ТДПУ, 2010. – 60 б. 2. Шермухамедова Н.А. Илмий тадқиқот методологияси. – Т.: “Fan va texnologiya”, 2014. – 512 б. 3. Алемасов В., Мамадалиев Ш. Илмий тадқиқот: методология, методика ва ижодиёт. – Т.: Ўзбекистон Республикаси ИИВ Академияси, 2015. – 102 б. 4. Ranjit Kumar. Research methodology a step-by-step guide for beginners. – Sage, New Delhi, 2011. – 415 p. 5. Саифназаров И., Никитченко Г.В., Б.У.Қосимов. Илмий ижод методологияси. – Т.: Янги аср авлоди, 2004. – 190 б. 6. Тўрақулов Х.А., Тўрақулов О.Х., Тўрақулов И.Х., Тўрақулов У.Х. Илмий тадқиқот асослари: 1000 саволга 1000 жавоб. – Т.: Fan va texnologiya, 2019. – 632 б.