NAVOI STATE UNIVERSITY

BIODIVERSITY

Master's Programme: 70510101 – Biology | Academic Year 2026–2027

1. Course Information

Item	Details
Course title	Biodiversity
Course code	BXXB151
Academic year / semester	2026–2027 / Semester 1
Programme	70510101 – Biology (Master's programme)
Course type / language	Compulsory / Uzbek
Credits	5 ECTS
Total workload	150 hours
Contact hours	60 hours: 30 lecture hours and 30 practical hours
Independent study	90 hours (as stated in the course workload table)
Weekly class hours	4
Aligned UN SDGs:	SDG 15 (Life on Land); SDG 2 (Zero Hunger); SDG 13 (Climate Action) SDG 6 – Clean Water and Sanitation



2. Course Description

The course examines biological diversity at species, genetic and ecosystem levels, with a focus on biodiversity conservation and the sustainable use of biological resources. It introduces national conservation strategies and action plans, protected areas in Uzbekistan, the country's flora and fauna, threats to biodiversity, endangered and endemic species, ecosystem types, conservation legislation, and the role of public awareness and participation in biodiversity protection.

3. Aim and Objectives

Aim: To develop students' understanding of biodiversity issues and the national strategies and action plans designed to conserve biodiversity, protect plant and animal life, and promote the rational use of biological resources in Uzbekistan.

Objectives include enabling students to:

- explain the role of natural systems and biological resources in environmental stability;
- identify approaches to conserving biodiversity and using biological resources sustainably;
- understand protected areas, conservation measures and the legal framework for biodiversity protection in Uzbekistan;
- develop analytical, research and independent-learning skills related to biodiversity conservation.

4. Prerequisites

Students are expected to have foundational knowledge and skills in ecology (SGE11208), genetics and the fundamentals of selection, cytology, histology and embryology.

5. Learning Outcomes

Upon successful completion of the course, students are expected to be able to:

- explain the concept, objectives and scope of biodiversity, including diversity of species, genes and ecosystems;
- describe protected-area systems and explain the importance of public awareness, education and participation;
- analyse land-use patterns and their implications for biodiversity conservation in Uzbekistan;
- discuss water-related issues, ecosystem types and the effects of contemporary environmental pressures on biological processes;
- identify biodiversity threats, rare and endangered species, endemic species and relevant conservation priorities;
- interpret biodiversity conservation strategies, relevant legislation and approaches to the sustainable use of biological resources;
- summarise and present findings from biodiversity observations and related research.

6. Course Workload

Learning activity	**Hours**
Lectures	30
Practical classes	30
Seminars	Not separately allocated in the workload table
Independent study	90
Total	150

7. Independent Study Tasks

- Conservation challenges for rare and endangered mammals.
- Conservation of biodiversity among aquatic and wetland animals.
- Challenges in conserving birds of prey.
- Issues relating to large fauna used in hunting and other human activities.
- Conservation challenges for migratory animals.
- Promising approaches to biodiversity conservation.

- General approaches to conserving invertebrate diversity.
- Relationships between nature, ecology and environmental education.
- Biodiversity challenges and measures to prevent biodiversity loss.

8. Teaching and Learning Methods

- Lectures, practical classes and seminars
- Interactive case studies and problem-based learning
- Project-based and inquiry-based learning
- STEAM and digital learning technologies
- Flipped classroom and collaborative learning
- Small-group work, discussions and debates
- Brainstorming, rapid questioning and structured reading strategies
- Concept maps, clusters, Venn diagrams and presentations
- Electronic learning resources, LMS platforms, portfolios, reflection and self-assessment
- Group projects and presentations

9. Assessment and Credit Requirements

To obtain course credits, students are expected to master the theoretical and methodological concepts of the subject, present analytical results accurately, demonstrate independent thinking, complete assigned tasks and submit the final written assessment.

Grade	Score range in source syllabus	General performance description
5	90–100	Comprehensive understanding, accurate scientific explanation, independent thinking, complete assignments and strong application of knowledge.
4	70–89.9	Good understanding of course content, logically sound explanations and completion of assigned tasks.
3	60–69.9	General understanding of the subject, with limited coverage or some weaknesses in explanation.
2	0–59.9	Insufficient preparation, major errors, incomplete work or inability to answer subject-related questions.

10. Core and Supplementary Literature

Core literature:

1. Red Data Book of the Republic of Uzbekistan. Volumes 1–2. Tashkent, 2019. 710 pp.
2. Brodsky, A.K. Biodiversity. Moscow: Akademiya Publishing Centre.
3. Primack, Richard B. Fundamentals of Biodiversity Conservation. Moscow: NUMC Publishing, 2002. 140 pp.
4. Do‘stova, M.T., & Xo‘janiyozova, B.X. Biological Foundations of Biodiversity. Bukhara, 2020.

Supplementary literature:

5. Mirziyoyev, Sh.M. We Will Build Our Great Future Together with Our Brave and Noble People. Tashkent: Uzbekistan, 2017. 488 pp.
6. Decree No. PF-4947 of the President of the Republic of Uzbekistan, 7 February 2017, on the Action Strategy for Further Development of the Republic of Uzbekistan.
7. Bogdanov, O.P. Rare Animals of Uzbekistan. Tashkent, 1992. 370 pp.
8. Biodiversity Conservation: National Strategy and Action Plan. 1998. 133 pp.
9. Mirabdullayev, M.I., Bikova, Ye.A., Jumaniyozova, N.I., & Chikin, Yu.A. Rare Animals of Khorezm. Tashkent, 2006.
10. Potapov, I.V. Zoology with the Fundamentals of Animal Ecology. Moscow: Akademiya, 2001.
11. Rahjmov, M.Sh., Khalillayev, Sh.A., Abdullayev, I.I., & Elmuratova, Z.U. Biodiversity. Textbook. Tashkent: Ma’rifat, 2024.

Information resources: ziyonet.uz; pedagog.uz; maik.ru; edu.ru.

11. Relevant Sustainable Development Goals (SDGs)

The following SDGs and targets are aligned with the course content and learning activities. This mapping indicates curricular relevance; it does not measure institutional SDG performance.

SDG	Relevant targets	Course relevance
SDG 15 – Life on Land	15.1, 15.5, 15.7	Core alignment: terrestrial ecosystems, protected areas, endangered and endemic species, biodiversity loss and conservation.
SDG 14 – Life Below Water	14.2, 14.5	Aquatic and wetland biodiversity, fish diversity, water ecosystems and protected natural areas.
SDG 2 – Zero Hunger	2.4, 2.5	Agrobiodiversity, biological resources, genetic diversity and sustainable use of biological resources.
SDG 6 – Clean Water and Sanitation	6.6	Water resources, river ecosystems, wetlands and the conservation of water-related ecosystems.
SDG 4 – Quality Education	4.7	Environmental education, public awareness, conservation learning and development of

		specialist knowledge.
SDG 12 – Responsible Consumption and Production	12.2	Sustainable use of natural and biological resources.
SDG 13 – Climate Action	13.1	Ecosystem stability and biodiversity conservation in the context of environmental pressures.

12. Course Compilation, Review and Approval

Role	**Name / details**
Compiler	A. R. Malikova, Associate Professor, Faculty of Natural Sciences, Biology Department, Navoi State Pedagogical Institute; Candidate of Pedagogical Sciences
Reviewer	G. S. Ergasheva, Professor, Department of Biology and Biology Teaching Methodology, Nizami Tashkent State Pedagogical University; DSc
Reviewer	U. B. Baxodirova, Associate Professor, Biology Department, Faculty of Natural Sciences and Medicine, Navoi State University; Candidate of Pedagogical Sciences
Approval	Approved by the Council of the Faculty of Natural Sciences and Medicine, meeting No. 11, 30 June 2026
Submitting department	Biology Department, meeting No. 11, 30 June 2026