Osh State University "Education for sustainable development and biodiversity conservation"

Name of Study Programme 520 200 Biology (Master's degree)	
Name of Module: Education for sustainable development and biodiversity conservation	
Module number	Special disciplines, D.2.1.2
Person responsible	Abdykaarov Abdimannap, Ph.D., Associate Professor
Duration of the module	1 spring semester
Semester	I semester
Frequency of the module	1nd academic semester
ECTS-Credits (CP)	3 credits
Semester hours per week, number of weeks	2 hours per week (14 weeks)
Workload	90 hours (1 credit 30 hours) Contact hours (Classroom hours): 36 hours Independent work: 54 hours
Type of module	Special disciplines, D.2.1.2
Required prerequisites for the module	**The course is aimed at studying the concepts of sustainable development and the role of education in biodiversity conservation.** It covers both theoretical and applied aspects of environmental education, the development of educational programs, and methodologies for fostering environmental awareness. **Target audience:** PhD students specializing in ecology, pedagogy, biodiversity, and sustainable development. **Course Goal** To provide doctoral students with a systemic understanding of the principles of sustainable development and the role of education in biodiversity conservation, as well as to develop skills in designing and implementing innovative educational programs for addressing pressing environmental challenges. **Course Objectives** 1. Demonstrate advanced knowledge of sustainable development, biodiversity, and methods of environmental education. 2. Analyze modern pedagogical approaches to environmental education for biodiversity conservation. 3. Design educational projects and recommendations for integrating sustainable development into the educational system. 4. Develop interdisciplinary skills for analyzing human–nature interactions. **Educational Tasks** • Study the concepts of sustainable development and their interrelation with biodiversity conservation. • Familiarize students with methods and tools of environmental education. **Research Tasks** • Identify current trends and practices in the field of environmental education. • Analyze the impact of educational initiatives on the conservation of natural ecosystems.

	Applied Tasks • Teach students to design educational programs focused on sustainable development. • Develop applied recommendations for enhancing the effectiveness of environmental education. **Practical Tasks** • Develop skills in implementing green technologies and adapting them to educational systems. • Organize project-based activities aimed at carrying out ecological initiatives. **Interdisciplinary Tasks** • Ensure understanding of an interdisciplinary approach to solving environmental problems through education.
Recommended prior knowledge for the module	Biodiversity of animals of the Kyrgyz Republic, Biodiversity of plants of the Kyrgyz Republic, Current environmental problems of the Kyrgyz Republic (Master's degree)
Teaching language **Язык преподавания**	Kyrgyz, Russian, later also in English
Competencies gained / Learning outcome	**Learning Outcome 4:** Students can implement original ideas and hypotheses and demonstrate their role in scientific research on the optimization and production activities in the field of biodiversity conservation. **Competencies** **Social and Personal Competence (SPC 1):** Demonstrates civic responsibility towards environmental issues, shows ethical and sustainable behavior oriented towards a healthy lifestyle and a respectful attitude to nature. **Instrumental Competence (IC 1):** Is able to apply appropriate methods and tools for collecting environmental information, its systematic analysis, and the assessment of ecological conditions. **General Professional Competence (GPC 1):** Has knowledge of the basic concepts in natural and social sciences related to ecology and sustainable development and is able to apply them to environmental analysis. **Professional Competence (PC 1):** Formed depending on the training profile and the specifics of the specialty.
Content of the module	**Course Topics** **1.** The Concept of Sustainable Development and Education **2.** Biodiversity as the Basis of Ecosystem Services **3.** Global and National Biodiversity Conservation Strategies of Kyrgyzstan **4.** Methodology of Environmental Education **5.** Green Technologies in the Educational System **6.** Study and Conservation of Biodiversity in Schools and Universities **7.** Analysis of Global Practices in Environmental Education **8.** Design of Educational Programs **9.** Evaluation of the Effectiveness of Educational Initiatives **10.** Final Project and Presentation
Applicability of the module	Corresponding educational programs: 520200 Biology. PhD

Requirements for the award of credit points (Study and exam requirements)	**Course Policy** **1. Attendance and Participation** • Students are required to attend all lectures and practical (seminar) sessions. • Proper behavior and discipline must be maintained during classes, as established by the instructor. • Absences without a valid reason may result in a lower final grade. • Careful note-taking, theoretical preparation for each lesson, active participation, and timely completion of missed assignments are separately evaluated. • Late arrivals are discouraged; repeated lateness may lead to penalties at the instructor's discretion. **2. Academic Integrity and Plagiarism** • **Plagiarism** and academic dishonesty include copying someone else's work, cheating, and presenting another's material as one's own. • Any cases of plagiarism or dishonesty on exams or assignments will result in grade penalties or other measures according to university regulations. **3. Deadlines and Late Submission Penalties** • All homework, projects, and other assignments must be submitted by the specified deadlines. • Late submissions will incur point deductions. • Arriving late to class or leaving without a valid reason affects participation evaluation. **4. Retake and Appeal Policy** • Retake of exams and assessments follows the procedure established by the instructor. • Grade appeals must be submitted in writing within the timeframe set by the instructor. **5. Use of Gadgets in Class** • The use of phones, laptops, and other devices during lectures is allowed only with instructor approval or for learning purposes. **6. Formatting and Citation Rules** • All written work must comply with university formatting requirements. • Proper citation and a complete list of references are mandatory. **7. Consultations and Office Hours** • Consultation schedules and office hours are set for individual consultations and guidance on independent student work (ISR). • More details: Consultation Schedule **8. Academic Integrity Declaration** • All students must sign a declaration confirming compliance with the university's academic integrity policy. • Regulation: "Organization of the Educational Process at OshSU" A-2024-0001, 03.01.2024 **Course Grading System (100 points)** **Module 1 – 25 points** • Lecture: 4 points • Practical (seminar) session: 6 points • Independent student work (ISR): 6 points • Practical independent work (PIR): 4 points • Control work (CW): 5 points **Module 2 – 25 points** • Lecture: 4 points • Practical (seminar) session: 6 points • Independent student work (ISR): 6 points

	• Practical independent work (PIR): 4 points • Control work (CW): 5 points **Final Exam – 50 points**
Learning and teaching types	**Forms of Instruction** • Lectures • Seminars • Independent student work (ISR, PIR) **Assessment Methods** • **Ongoing assessment**: tests, essays, reports • **Final exam** **Teaching Methods** • **Lectures** using multimedia technologies. • **Practical sessions** in the form of case studies, situation analysis, and project development. • **Independent student work (ISR, PIR)**: preparation of essays, presentations, reports, and the final project. **Forms of Assessment** • **Ongoing assessment**: evaluation of practical sessions, tests, essays. • **Intermediate assessment**: defense of presentations, case studies, and reports. • **Final assessment**: development and defense of an environmental program project.
Literature (latest editions) and other instruction material	**Key References and Resources** 1. **UNESCO.** *Education for Sustainable Development Goals.* Available at: unesco.org 2. **Convention on Biological Diversity (CBD).** *Global Strategy for Biodiversity Conservation.* Available at: cbd.int 3. **Green Economy Platform.** Available at: green-economy.org 4. **National Sustainable Development Strategy of the Kyrgyz Republic for 2013–2017.** Available at: cbd.minjust.gov.kg **Legal and Regulatory Acts** 1. Collection of Legal and Regulatory Acts of the Kyrgyz Republic in the Field of Environmental Protection. Volume 2 "Bylaws and Instructional-Methodological Documentation", Part 1 Dj.E. Bekkulova, Zh.A. Kadoeva, A.Sh. Djailoobaev, V.V. Grebnev, A.K. Nurbekov – Bishkek, 2016. – 536 pages. 2. Collection of Legal and Regulatory Acts of the Kyrgyz Republic in the Field of Environmental Protection. Volume 2 "Bylaws and Instructional-Methodological Documentation", Part 2 Dj.E. Bekkulova, Zh.A. Kadoeva, A.Sh. Djailoobaev, V.V. Grebnev, A.K. Nurbekov – Bishkek, 2016. – 542 pages. 3. Environmental Code of the Kyrgyz Republic 4. Collection of normative legal acts of the Kyrgyz Republic **Textbooks of the Center for Ecology and Sustainable Development:** More than 100 titles, the main ones are: 1. Brodsky, A.K. Introduction to the Problems of Biodiversity. – St. Petersburg: St. Petersburg University Press, 2002. – 144 p. 2. Nature Reserves of Central Asia and Kazakhstan / ed. by R.V. Yashchenko. Protected Natural Areas of Central Asia and Kazakhstan. Vol. 1. – Almaty: Tethys, 2006. – 352 p. 3. Cadastre of the Genetic Fund of Kyrgyzstan: Vol. V. Phylum Chordata. – Bishkek, 2015. – 128 p.

	4. Kulnazarov, B.K. Mammals of Southern Kyrgyzstan: Problems of Their Conservation. – Bishkek, 2008. – 216 p. 5. Systematic List of Vertebrate Animals of Kyrgyzstan. – Bishkek, 2010. – 116 p.