Micro-Credential Template for GreenKG

Name of Micro-Credential Module

Role of Digital Technologies in the Green Economy

General Information

MC-Module Identifier	GreenKG-MC-BSU-01
Issuing Body	Batken State University
Responsible Staff	- Musa M. Usonov, PhD in Economics, Associate Professor - Zhumabek Abdipatta uulu, Junior Research Fellow - Isa M. Usonov, Junior Research Fellow, Project Manager
EQF Level	Bachelor: EQF 6

Delivery and Workload

Mode of Delivery	Hybrid (on-campus + online)
Workload / Credit Points (CP)	2 credits = 60 hours
Breakdown	Theory: 16 h | Practice: 14 h | Self-study: 30 h

Language of Instruction

Kyrgyz, Russian

Recommended Prior Knowledge / Admission Requirements

• Basic digital literacy
• Ability to use computer and internet resources
• Interest in ecology and sustainable development

Target Group / Profile of Learners

Undergraduate students of all majors interested in digital technologies, green economy, and sustainable development.

Intended Learning Outcomes (ILOs)

1. Explain the principles of green economy and the role of digitalization in sustainable development.
2. Identify modern digital technologies and their applications in environmental projects.
3. Apply digital tools for data analysis and evaluation of environmental effects.
4. Develop mini-projects such as “smart university” or eco-mobile applications.
5. Use project-based thinking methods to design sustainable digital solutions.
6. Present results through presentations, analytical briefs, and public defenses.

Content of the Module / Syllabus

The module covers 8 lecture topics and 7 practical sessions.

Lectures (16 hours):

• Introduction to Green Economy: principles, goals, and global challenges of sustainable development (2 h)
• Digitalization as a driver of green economic transformation (2 h)
• Modern eco-technologies in households and industries: smart sensors, energy-saving systems (2 h)
• Artificial Intelligence and its contribution to ecology and sustainable development (2 h)
• Digitalization in energy: solar and wind technologies (2 h)
• Smart cities: transport, lighting, ecology, and comfort (2 h)
• Digital platforms and mobile applications for "green" initiatives (2 h)
• Youth participation in the digital eco-agenda: online campaigns, volunteering, eco-startups (2 h)

Practicals (14 hours):

• Examples of "green" digital projects in Kyrgyzstan and worldwide (presentations, 2 h)
• Designing a "Smart University" (group work, 2 h)
• Mini-research: reducing the carbon footprint of the university (2 h)
• Working with open environmental data (tables, graphs, 2 h)
• Brainstorming: idea for a mobile eco-application (2 h)
• Sustainable agriculture: digital solutions in Kyrgyzstan (case analysis, 2 h)
• Final session: defense of mini-projects (presentations, 2 h)

Self-study (30 hours):

• Reading scientific and international literature (10 h; UNEP, OECD, Springer, etc.)
• Analytical brief / essay (8 h; e.g. "Digitalization and Carbon Neutrality")
• Mini-project / presentation (6 h; e.g. "Digital Strategy for Sustainable Transport")
• Preparation for final exam (6 h; test questions, project defense)

Teaching and Learning Methods

• Lectures with multimedia presentations
• Seminars and group work
• Case studies and brainstorming sessions
• Data analysis using digital tools
• Independent research and project work

Learning Support / Instruction Materials

• Learning materials (lectures, presentations, assignments) available through the university platform.
• Access to UNEP, OECD, World Economic Forum, Springer, Elsevier resources.
• Teacher consultations and methodological guidelines.

Assessment Methods and Criteria

Participation and activity in practical sessions	20 points
Independent work (report/essay/presentation)	30 points

Final exam (mini-project defense + oral/written test)	50 points
Total	100 points

Assessment criteria: student activity, analytical skills, quality of projects, ability to use digital tools and present results.