
Assessment of the quality of learning/teaching materials in relation to the national requirements of the Russian Federation

EduEnvi Grant

"The European Commission support for the production of this publication does not constitute an endorsement of the contents which reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein."

With the support of the
Erasmus+ Programme
of the European Union



OCTOBER 1, 2021

Professor Vitaly Kopnov
Russian State Vocational Pedagogical University



List of courses

	Name
Module 1	Comprehensive risk assessment in waste management
Course 1	Introduction to environmental risks
Course 2	Environmental, social and economic risks
Course 3	Solid wastes and environmental risks
Module 2	Biotechnologies for waste utilization
Course 1	Basics of ecological biotechnologies
Course 2	The Applied Aspects of Using Biotechnological Methods for Waste Utilization
Module 3	Non-energy technologies for waste utilization
Course 1	Basics of waste utilization
Course 2	Reuse of side products and outputs
Course 3	Physico-chemical treatment methods in waste management
Module 4	Energy technologies for waste utilization
Course 1	Waste-to-energy plants and technologies
Course 2	Energy efficient technologies in waste treatment
Module 5	Development of business and entrepreneurship for sustainable waste management
Course 1	Modeling of business processes in the field of waste management
Course 2	Business planning for sustainable waste management projects
Module 6	Public administration and municipal governance in Sustainable Waste Management
Course 1	Institutional approach to SWM decision-making
Course 2	Public and municipal governance in SWM
Course 3	Budget and financial base of SWM
Module 7	Environmental management and waste prevention
Course 1	Waste prevention: sustainable business models, tools and good practices
Course 2	Application of ISO 14001 for waste prevention
Course 3	Theory and practice of waste management in companies
Module 8	Life cycle assessment and life cycle costing

Course 1	Introduction to LCA based on ISO 14040 series
Course 2	Application of LCA for waste prevention

Methodology

Basic requirements for providing evaluation of courses developed under the EduEnvi grant were taken out of the national legislation and regulation documents and ESG Standards as well listed in the **References** to this document.

What and how was evaluated

- 1) The degree of compliance with **Federal state educational standards** **are** evaluated **if available**.
- 2) The needs of an individual or legal entity, in whose interests teaching activities are carried out, **can** be assessed only indirectly as the assessor has an access only to documents. No survey was provided.
- 3) The degree of achievement of the planned results of the courses **are** evaluated by studying the content of course programmes, teaching and learning materials.

In accordance with the ESG Standards, the evaluation methodology is based on the following pre-defined criteria, which are interpreted consistently and are evidence-based in the interests of equity and reliability.

Namely the following group of criteria were taken into account (see the table below).

- (1.2) Design and approval of programmes
- (1.3) Student-centred learning, teaching and assessment
- (1.9) On-going monitoring and periodic review of programmes

List of Criteria

Rule	Criterion Title	Question
The course includes well-structured placement opportunities.	Course Instruction	Are there clear instructions how to enroll the course?

The course learning/teaching materials 1) are designed with overall programme objectives, 2) have explicit intended learning outcomes	Learning Outcomes	Are learning outcomes clearly defined and correspondent to a level of EQF?
Define the expected student workload, e.g. in ECTS;	ECTS	How many ECTS or academic hours are assigned to the course
The effectiveness of procedures for assessment of students.	Criteria of Assessment	Are criteria of assessment clear and relevant to the course aims and LOs?
The course 1) respects and attends to the diversity of students and their needs, enabling flexible learning paths; 2) encourages a sense of autonomy in the learner, while ensuring adequate guidance and support from the teacher;	Visibility	Is the course description clear and informative for external evaluator (not only for developers)?
	Achievability of LOs	Are the Learning Outcomes achievable within the course? If less 100% it means that 1) more academic hours needed to reach the course aims and LOs, 2) new mode of communication, 3) new pedagogy, etc.

Recommendations

1. Course Instruction

Each online course should contain simple instructions on how to enroll in the course.

2. Criteria of Assessment

Assessment criteria are an essential part of the Curriculum and Syllabus. Before enrollment, the student must understand how learning outcomes will be assessed in order to evaluate his/her own capability.

3. Achievability of LOs

Each course description should give an applicant understanding and confidence that the learning outcomes can be achieved within the given frame of the course

Conclusion

In general, it can be concluded that the developed courses reflect the general concept of the project in accordance with the application, are complementary and represent an excellent prospect for the development of a full-fledged master's programme in sustainable development and waste management.

Noteworthy is the possibility of using courses not only in classroom, but also as MOOCs.

Disclaimer

The European Commission's support for the production of this report does not constitute an endorsement of the contents, which reflect the views only of the authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein.

References

1. Федеральный закон от 29.12.2012 № 273-ФЗ «Об образовании в Российской Федерации», (ред. от 17 февраля 2021 г.)
2. Методические рекомендации по подготовке к проведению оценки механизмов управления качеством образования в субъектах Российской Федерации. Moscow: ФИОКО. 2020.
https://fioco.ru/Media/Default/%D0%9C%D0%B5%D1%82%D0%BE%D0%B4%D0%B8%D0%BA%D0%B8/%D0%9C%D0%B5%D1%82%D0%BE%D0%B4%D0%B8%D1%87%D0%B5%D1%81%D0%BA%D0%B8%D0%B5%20%D1%80%D0%B5%D0%BA%D0%BE%D0%BC%D0%B5%D0%BD%D0%B4%D0%B0%D1%86%D0%B8%D0%B8%20%D0%BF%D0%BE%20%D0%BF%D1%80%D0%BE%D0%B2%D0%B5%D0%B4%D0%B5%D0%BD%D0%B8%D1%8E%20%D0%BE%D1%86%D0%B5%D0%BD%D0%BA%D0%B8%20%D0%BC%D0%B5%D1%85%D0%B0%D0%BD%D0%B8%D0%B7%D0%BC%D0%BE%D0%B2%20%D1%83%D0%BF%D1%80%D0%B0%D0%B2%D0%BB%D0%B5%D0%BD%D0%B8%D1%8F%202020_.pdf
3. Методические рекомендации по реализации образовательными организациями механизмов оценки качества образовательной деятельности и подготовки обучающихся по программам бакалавриата/магистратуры/ специалитета. Moscow, Ministry of Education and Science, 2017. <http://fgosvo.ru/uploadfiles/metod/05-18965.pdf>
4. Методические рекомендации по проведению независимой оценки качества образовательной деятельности организаций, осуществляющих образовательную деятельность. Moscow, Ministry of Labour and Social Protection. 2015.
<https://mintrud.gov.ru/document/document/download/7278>
5. Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG). (2015). Brussels, Belgium.
6. Description of the eight EQF levels. <https://europa.eu/europass/en/description-eight-eqf-levels>
7. Cedefop (2017). Defining, writing and applying learning outcomes: a European handbook. Luxembourg: Publications Office. <http://dx.doi.org/10.2801/566770>

Annex 1

See the table with course assessment in accordance with the criteria described above.

	Name	Course Instruction	Learning Outcomes	ECTS	Criteria of Assessment	Visibility	Achievability of LOs
Module 1	Comprehensive risk assessment in waste management						
Course 1	Introduction to environmental risks	clear	defined	3	comprehensive	Informative	Yes
Course 2	Environmental, social and economic risks	clear	defined	3	defined	Informative	Yes
Course 3	Solid wastes and environmental risks	clear	defined	3	defined	Informative	Yes
Module 2	Biotechnologies for waste utilization						
Course 1	Basics of ecological biotechnologies	clear	defined	3	n/a	Informative	Yes
Course 2	The Applied Aspects of Using Biotechnological Methods for Waste Utilization	clear	defined	3	n/a	Informative	Yes
Module 3	Non-energy technologies for waste utilization						
Course 1	Basics of waste utilization	clear	defined	3	n/a	Informative	Yes
Course 2	Reuse of side products and outputs	clear	defined	3	n/a	Informative	Yes

Course 3	Physico-chemical treatment methods in waste management	clear	defined	3	comprehensive	Informative	Yes
Module 4	Energy technologies for waste utilization						
Course 1	Waste-to-energy plants and technologies	clear	defined	3	n/a	less informative	n/a
Course 2	Energy efficient technologies in waste treatment	n/a	defined	3	defined	less informative	Yes
Module 5	Development of business and entrepreneurship for sustainable waste management						
Course 1	Modeling of business processes in the field of waste management	n/a	defined	3	n/a	less informative	Yes
Course 2	Business planning for sustainable waste management projects	n/a	defined	3	defined	less informative	Yes
Module 6	Public administration and municipal governance in Sustainable Waste Management						
Course 1	Institutional approach to SWM decision-making	n/a	defined	3	n/a	informative	Yes
Course 2	Public and municipal governance in SWM	n/a	defined	3	n/a	informative	Yes
Course 3	Budget and financial base of SWM	n/a	defined	3	defined	informative	Yes
Module 7	Environmental management and waste prevention						

Course 1	Waste prevention: sustainable business models, tools and good practices	n/a	defined	3	n/a	informative	Yes
Course 2	Application of ISO 14001 for waste prevention	clear	defined	3	n/a	informative	Yes
Course 3	Theory and practice of waste management in companies	n/a	defined	3	n/a	informative	Yes
Module 8	Life cycle assessment and life cycle costing						
Course 1	Introduction to LCA based on ISO 14040 series	clear	defined	3	defined	informative	Yes
Course 2	Application of LCA for waste prevention	n/a	defined	3	n/a	informative	Yes