BOOSTING THE GREEN FUTURE
VIA UNIVERSITY MICRO-CREDENTIALS
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B-Green-ED MICRO-CREDENTIAL COURSE CATALOGUE

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INTRODUCTION

This document provides information about university micro-credential courses that focus on sustainable management and green and environmental standards, developed through the B-Green-ED Project supported by the European Commission under the Erasmus+ Programme...

The primary goal of the B-Green-ED project was to support the transition to a European green economy by developing innovative educational practices. This included incorporating standardization into higher education programs through micro-credentials specifically designed to equip students and professionals with the targeted skills needed to meet the evolving demands of green and digital transitions.

The courses have been developed in close collaboration with qualified specialists from six organizations across four European countries: Burgas Free University (Bulgaria), Mykolo Romerio Universitetas (Lithuania), Universitat Politècnica de València (Spain), and Universitatea de Științele Vieții "Regele Mihail I al României" din Timișoara (Romania), as well as the National Standard Bodies of Bulgaria (BDS) and Romania (ASRO).

Twelve B-Green-ED micro-credential courses[1] have been developed and approved at the university level and validated with the involvement of professors and students. The integration of standardization-focused micro-credential courses into the university ecosystems demonstrated several key outcomes:

- Global Perspective: Students gained a deeper understanding of international standards like ISO and EN, enabling them to apply their skills effectively in diverse global contexts.
- Responsible Innovation: Students learned to balance innovation with adherence to quality and regulatory standards in the growing fields of sustainable economy.
- Enhanced Performance: By implementing sustainable management, and green and environmental standards, students learned to optimize processes, boost efficiency, and improve environmental stewardship across various industries.
- Green Skills: Students acquired the necessary skills to contribute to sustainable practices and ensure safety in environmentally conscious industries.
- Cost Optimization: By applying standards, students learned to streamline operations, reduce waste, and maximize resource utilization.

[1] The B-Green-ED micro-credential courses are accessible for all registered users on the following **LINK**

The following sections of the document provide brief information about the micro-credential courses, including course description, structure/topics, equivalent in ECTS, duration in hours, pre-requisites, course provider, teaching board, and details about registering for the training.

CIRCULAR ECONOMY, BUSINESS MODELS AND GREEN STANDARDS

Course Title	**CIRCULAR ECONOMY, BUSINESS MODELS AND GREEN STANDARDS**
Course Description	*This course offers a foundational understanding of sustainable business practices, circular economy principles, green business models, and green entrepreneurship. It emphasizes the eco-design paradigm for developing sustainable business models and introduces mechanisms to assess material efficiency using international standards (CLC/TR 45550:2020, EN 45555:2019, EN ISO 14006:2020, EN 45554:2020). Students will gain insights into driving positive environmental and economic impact.*
Course Topics	*The course encompasses the following modules:* *Module 1. Circular economy, green business models and material efficiency: circular economy, green business and green entrepreneurship; green business models and their categorization; nature of standards, types of standards, standardization process, standards and legislation; definitions related to material efficiency according to standard CLC/TR 45550:2020.* *Module 2. General methods for assessing the recyclability and recovery of energy-related products: scope of standard EN 45555:2019; assessing the possibility of recycling/recovery of energy-related products; recycling optimization; evaluation of the possibility of recycling and recovery.* *Module 3: Eco-design of environmental management systems - basic guidelines: scope of standard EN ISO 14006:2020; environmental management systems - basic terms and definitions; eco-design related fundamental concepts.* *Module 4 (optional module): General methods for assessing the repairability, reusability and upgradeability of* energy-related products: *scope of standard EN 45554:2020; basic terms and definitions; identifying the evaluation parts documenting the assessment results.*
Equivalent in ECTS	*3 ECTS*
Certificate	*Issued by the course provider*
Duration in hours	75 learning hours
Pre-requisites	*The course is designed for university students (undergraduate or graduate), and other individuals and professionals with economic educational background*
Course Provider	*BURGAS FREE UNIVERSITY, BULGARIA* *http://www.bfu.bg*
Teaching board	*Prof. Diana Sabotinova and Assoc. Prof. Mariya Monova*
Registering for the training:	*For inquiries and registration details, please visit* *https://e-learn.bfu.bg/course/index.php?categoryid=39&lang=en*

ELECTRONICS AND COMMUNICATION OF RENEWABLE ENERGY SOURCES: GREEN STANDARDS

Course Title	**ELECTRONICS AND COMMUNICATION OF RENEWABLE ENERGY SOURCES - GREEN STANDARDS**
Course Description	*This basic course aims to familiarize students with the main concepts and terms related to the circular economy and green business, the international terminology for energy efficiency and renewable energy sources (RES) and grid integration of renewable energy production introduced by EN ISO/IEC 13273-2:2015, EN ISO 50001:2018 and EN IEC 62934:2021 standards. Students will gain insights into driving positive environmental and economic impact.*
Course Topics	*The course encompasses the following modules:* *Module 1: Circular economy, standardization and standards, energy efficiency and renewable energy sources (RES)* *- Circular economy and green business;* *- Standards – nature of standards and types of standards* *- Standardization organizations, standardization process, standards and legislation.* *- Common international terminology for energy efficiency and RES according to standard EN ISO/IEC 13273-2:2015* *Module 2: Energy management systems - requirements, principles and rules of operation* *- Scope of EN ISO 50001:2018 standard;* *- Requirements for the creation and implementation of an energy management system according to the EN ISO 50001:2018 standard;* *- Requirements for maintaining and improving an energy management system according to the EN ISO 50001:2018 standard.* *Module 3: Grid integration of renewable energy production* *- Scope of standard EN IEC 62934:2021;* *- Basic terms and definitions in the field of grid integration of renewable energy generation according to standard EN IEC 62934:2021;* *- Technical problems of grid integration caused by renewable energy generation with variable sources and/or converter-based technology.*
Equivalent in ECTS	*3 ECTS*
Certificate	*Issued by the course provider*
Duration in hours	75 learning hours
Pre-requisites	*The course is designed for university students (undergraduate or graduate) and other individuals and professionals with engineering and technical educational backgrounds.*
Course Provider	*BURGAS FREE UNIVERSITY, BULGARIA* *http://www.bfu.bg*
Teaching board	*Assoc. Prof. Plamen Angelov Assoc. Prof. Yanislav Zhelev*
Registering for the training:	*For inquiries and registration details, please visit* *https://e-learn.bfu.bg/course/index.php?categoryid=39&lang=en*

ENGINEERING AND EXPLOITATION OF ENERGY SYSTEMS - GREEN STANDARDS

Course Title	**ENGINEERING AND EXPLOITATION OF ENERGY SYSTEMS - GREEN STANDARDS**
Course Description	*The course aims to familiarize students with the basic concepts and concepts related to the circular economy and green business, energy management and storage systems, with the general international requirements for building energy management systems and the rules for their operation, as well as with the international terminology for energy efficiency and renewable energy sources (RES), introduced by the standards EN ISO 50001:2018, EN IEC 62933-1:2018 and EN ISO/IEC 13273-2:2015..*
Course Topics	*The course encompasses the following modules:* *Module 1: Circular Economy, standards and international terminology for energy efficiency* *- Circular economy and green business models and their categorization;* *- Standards – nature of standards and types of standards.* *- Common international terminology regarding energy efficiency and RES according to standard EN ISO/IEC 13273-2:2015.* *Module 2: Electrical Energy Storage Systems – Basic Paradigms and Terminology* *- Scope of standard EN IEC 62933-1:2018; Terms applicable to electrical energy storage systems (EES) according to EN IEC 62933-1:2018;* *- Terms necessary for defining the electrical energy storage system parameters, test methods, planning, installation, safety and environmental issues according to standard EN IEC 62933-1:2018.* *Module 3: Electrical energy storage systems - classification, requirements, principles, and safety* *- Scope of EN ISO 50001:2018 standard. Classification and specification of electrical energy storage systems* *- Principles for planning and installation of electrical energy storage systems according to standard EN ISO 50001:2018;* *- The requirements for maintenance and safety of electrical energy storage systems according to standard EN ISO 50001:2018.*
Equivalent in ECTS	*3 ECTS*
Certificate	*Issued by the course provider*
Duration in hours	75 learning hours
Pre-requisites	*The course is designed for university students (undergraduate or graduate) and other individuals and professionals with engineering and technical educational backgrounds*
Course Provider	*BURGAS FREE UNIVERSITY, BULGARIA* *http://www.bfu.bg*
Teaching board	*Assoc. Prof. Kamen Seymenliyski, Assoc Prof. Yanislav Zhelev*
Registering for the training:	*For inquiries and registration details, please visit* *https://e-learn.bfu.bg/course/index.php?categoryid=39&lang=en*

ANDRAGOGICAL TECHNOLOGIES AND SAFE ENVIRONMENT

Course Title	**ANDRAGOGICAL TECHNOLOGIES AND SAFE ENVIRONMENT**
Course Description	*The course explores the main concepts and terms related to adult education and learning society. This course offers innovative perspective in relation to the learning technologies, safe environment and educational organization This course provides participants with an understanding of the integration of andragogy technologies and safe environment principles in the context of global standards by EN ISO 21001:2018, EN ISO 14040:2006 and EN ISO 56000:2021 standards. Students will gain insights into the processes of andragogy, teaching and learning, and the creation of a learning environment that has a positive impact not only on the individual, but also on society and the environment.*
Course Topics	*The course encompasses the following modules:* *Module 1. Andragogy Theories and Models, Standardization and Standard "innovation management": andragogy theories and adults learning models; general information regarding the standards and standardization; common international terminology for Innovation management; fundamentals and vocabulary, according to standard EN ISO 56000:2021.* *Module 2. Learning society and Learning organization: Learning society models and transformation; the requirements for the creation and development of Educational organizations — Management systems for educational organizations according to the EN ISO 21001:2018 standard.* *Module 3. Adult education and safe environment: adult learning environment; environment as adult learning motivation factor and the role of technologies in adult teaching and learning; Environmental management, Life cycle assessment, Principles and framework according to the EN ISO 14040:2006 standard*;
Equivalent in ECTS	*1 ECTS*
Duration in hours	27 learning hours
Pre-requisites	*The course is designed for university students (undergraduate or graduate) and other individuals with educational backgrounds.*
Course Provider	*MYKOLAS ROMERIS UNIVERSITY, LITHUANIA* *https://www.mruni.eu/*
Teaching board	*Prof. dr. Irena Zemaitaityte and Agata Katkoniene*
Registering for the training:	*bgreened@mruni.eu*

SOCIAL RESPONSIBILITY AND CAREER MANAGEMENT

Course Title	**SOCIAL RESPONSIBILITY AND CAREER MANAGEMENT**
Course Description	*The course explores career management in the context of social and environmental responsibility. This course offers a career management perspective in relation to the ethics of social and environmental responsibility. This course provides participants with an understanding of the integration of career development and social responsibility principles in the context of global standards (ISO 26000:2010, ISO 21500:2021, ISO 31073:2022, EN ISO 14001:2015). Students will gain insights into career management processes that have a positive impact not only on the individual but also on society and the environment.*
Course Topics	*The course encompasses the following modules:* *Module 1. Theoretical backgrounds of career management and general information regarding the standards and standardization: career management: concept, process and relevance; general information regarding the standards and standardization.* *Module 2. Social Responsibility in The Context of Career Management: theoretical backgrounds of social responsibility in relation with guidance on social responsibility (ISO 26000:2010); integrating social responsibility principles (ISO 26000:2010) in career management.* *Module 3.* ***Project Management, Risk Management and Career Development:*** *project management (ISO 21500:2021) and career growth; risk management (ISO 31073:2022) and career resilience.* *Module 4. Environmental Responsibility and Sustainable Careers: understanding sustainable careers; sustainable career management within environmental management context (EN ISO 14001:2015).*
Equivalent in ECTS	*1 ECTS*
Duration in hours	27 learning hours
Pre-requisites	*The course is designed for university students (undergraduate or graduate) and other individuals with educational backgrounds.*
Course Provider	*MYKOLAS ROMERIS UNIVERSITY, LITHUANIA* *https://www.mruni.eu/*
Teaching board	*Prof. dr. Asta Railienė and prof. dr. Odeta Merfeldaitė*
Registering for the training:	*bgreened@mruni.eu*

SOCIAL RESPONSIBILITY IN FAMILY WORK

Course Title	**SOCIAL RESPONSIBILITY IN FAMILY WORK**
Course Description	*The course explores social responsibility in the context of family work and its cultural influences. This course offers a comprehensive perspective on how social responsibility principles apply to family dynamics and societal norms. Participants will gain an understanding of the ethical foundations and cultural variations in social responsibility, while also exploring the role of global standards such as ISO 26000:2010 and IWA 34:2021. This course provides practical insights into communication and conflict resolution strategies, enabling students to implement responsible practices that benefit both family units and the wider community.*
Course Topics	*The course encompasses the following modules:* *Module 1. Introduction to Social Responsibility in Family Work: understanding the concepts and principles of social responsibility in family settings; general information regarding the standards and standardization; ethical foundations of social responsibility (ISO 26000:2010).* *Module 2. Cultural and Societal Influences on Family Social Responsibility: cultural perspectives on family social responsibility; understanding societal norms and cultural variations in social responsibility practices; key definitions and criteria for women's entrepreneurship (IWA 34:2021).* *Module 3. Developing Skills for Implementing Social Responsibility in Family Settings: effective communication and conflict resolution; active listening and empathetic communication; strategies for conflict resolution.*
Equivalent in ECTS	*1 ECTS*
Duration in hours	27 learning hours
Pre-requisites	*The course is designed for university students (undergraduate or graduate) and other individuals with educational backgrounds.*
Course Provider	Mykolas Romeris University *MYKOLAS ROMERIS UNIVERSITY, LITHUANIA* *https://www.mruni.eu/*
Teaching board	*Lect. Agata Katkonienė and Prof. Dr. Irena Žemaitaitytė*
Registering for the training:	*bgreened@mruni.eu*

QUALITY MANAGEMENT SYSTEMS STANDARDS

Course Title	**QUALITY MANAGEMENT SYSTEMS STANDARDS**
Course Description	*The course aims to familiarize students with the content of the quality management systems standards, their fundamentals and vocabulary, requirements, and ways to achieve sustained success in the quality management of an organisation. The course includes the analysis of the content of the following standards: ISO 9000:2015, ISO 9001:2015, ISO 9004:2018, ISO 10006, ISO 10007 and ISO 18091.* *The specificity of this study course assumes that the participants are students (bachelor's or master's degree), professionals and external users with a technical profile and knowledge in areas such as Science, Engineering or Business Studies.*
Course Topics	*The course is organized on a modular basis and covers three mandatory modules as follows:* *Module 1.- Fundamentals of quality management systems* *• Quality management systems. Fundamentals and vocabulary (ISO 9000:2015)* *• Quality management systems. Requirements. (ISO 9001:2015)* *• Quality management of an organization (ISO 9004:2018)* *Module 2.- Quality management in projects* *• Guidelines for quality management in projects (ISO 10006:2017)* *•Quality management. Guidelines for configuration management (ISO 10007:2017)* *Module 3.- Application of ISO 9001 in local government (ISO 18091:2019)* *(Covered topics, i.e. structure of the course)*
Equivalent in ECTS	*1 ECTS*
Duration in hours	*25 learning hours*
Pre-requisites	No pre-requisites are required
Course Provider	UNIVERSITAT POLITÈCNICA DE VALÈNCIA *Universitat Politècnica de València* *Research institute of Water Engineering and Environment* *https://www.upv.es/*
Teaching board	Assoc. Prof. Javier Rodrigo Ilarri jrodrigo@upv.es Assoc. Prof. Maria Elena Rodrigo Clavero marodcla@upv.es
Registering for the training:	*https://www.cfp.upv.es/*

ENVIRONMENTAL MANAGEMENT SYSTEMS STANDARDS

Course Title	**ENVIRONMENTAL MANAGEMENT SYSTEMS STANDARDS**
Course Description	*The course aims to familiarize students with the content of the environmental management systems standards, their fundamentals and general guidelines on their implementation and performance evaluation. The guidelines for incorporating eco-design and life cycle assessment are also introduced. The course includes an analysis of the content of the following standards: ISO 14001:2015, 14004:2016, 14006:2020, 14031:2021, 14040:2006 and 14044:2006.* *The specificity of this study course assumes that the participants are students (bachelor's or master's degree), professionals and external users with a technical profile and knowledge in areas such as Science, Engineering or Business Studies.*
Course Topics	*The course is organized on a modular basis and covers three mandatory modules as follows:* *The course is organized on a modular basis and covers two mandatory modules as follows:* *Module 1.- Fundamentals of environmental management systems* *• 1.1.- Requirements with guidance for use (ISO 14001:2015)* *• 1.2.- General guidelines on implementation (ISO 14004:2016)* *• 1. 3.- Guidelines for incorporating eco-design (ISO 14006:2020)* *Module 2.- Performance evaluation and life cycle assessment* *• 2.1. Environmental performance evaluation. Guidelines (ISO 14031:2021)* *• 202. Life cycle assessment (ISO 14040:2006 and ISO 14044:2006)*
Equivalent in ECTS	*1 ECTS*
Duration in hours	*25 learning hours*
Pre-requisites	No pre-requisites are required
Course Provider	UNIVERSITAT POLITÈCNICA DE VALÈNCIA *Universitat Politècnica de València* *Research institute of Water Engineering and Environment* *https://www.upv.es/*
Teaching board	Assoc. Prof. Javier Rodrigo Ilarri jrodrigo@upv.es Assoc. Prof. Maria Elena Rodrigo Clavero marodcla@upv.es
Registering for the training:	*https://www.cfp.upv.es/*

WASTE MANAGEMENT AND INDUSTRIAL POLLUTION CONTROL STANDARDS

Course Title	**WASTE MANAGEMENT AND INDUSTRIAL POLLUTION CONTROL STANDARDS**
Course Description	*The course aims to familiarize students with the content of waste management and industrial pollution control standards. The following processes are addressed in the course from the perspective of waste production: the analysis of Greenhouse Gas (GHG) emissions, plastic waste recovery, packaging and waste collection and transportation. The course includes the analysis of the content of the following standards: ISO 14064-1:2018, ISO 14064-2:2019, ISO 15270:2008, ISO 18601:2013, ISO 18602:2013 and ISO 24161:2022.* *The specificity of this study course assumes that the participants are students (bachelor's or master's degree), professionals and external users with a technical profile and knowledge in areas such as Science, Engineering or Business Studies.*
Course Topics	*The course is organized on a modular basis and covers two mandatory modules as follows:* *Module 1.- Greenhouse gas emissions* *• 1.1.- Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals (ISO 14064-1:2019)* *• 1.2.- Specification with guidance at the project level for quantification, monitoring and reporting of greenhouse gas emission reductions or removal enhancements (ISO 14064-2:2019)* *Module 2.- Plastic waste, packaging and waste collection basics* *• 2.1. Guidelines for the recovery and recycling of plastics waste (ISO 15270:2008)* *• 2.2.- General requirements for the use of ISO standards in the field of packaging and the environment (ISO 18601:2013)* *• 2.3.- Optimization of the packaging system (ISO 18602:2013)* *• 2.4.- Waste collection and transportation management — Vocabulary (ISO 24161:2022)*
Equivalent in ECTS	*1 ECTS*
Duration in hours	*25 learning hours*
Pre-requisites	No pre-requisites are required
Course Provider	UNIVERSITAT POLITÈCNICA DE VALÈNCIA *Universitat Politècnica de València* *Research institute of Water Engineering and Environment* *https://www.upv.es/*
Teaching board	Assoc. Prof. Javier Rodrigo Ilarri jrodrigo@upv.es Assoc. Prof. Maria Elena Rodrigo Clavero marodcla@upv.es
Registering for the training:	*https://www.cfp.upv.es/*

RISK MANAGEMENT IN BIOECONOMY

Course Title	**RISK MANAGEMENT IN BIOECONOMY**
Course Description	*The course aims to familiarize the students with the basic concepts of "Risk" and the Risk Management related terms. The specific concepts, frameworks, techniques, and regulatory aspects of risk management are discussed in both the context of a general organization and in the specific case of the bioeconomy framework. The topics are according to ISO 31000:2018, ISO EN IEC 31010:2020, ISO EN 22005:2007, ISO 31073:2022, ISO IWA31:2020.*
Course Topics	*The course encompasses the following modules:* *Module 1: Risk management vocabulary:The module is based on the ISO 31073:2022 standard, an international standard that focuses on the vocabulary for risk management. Defines generic terms related to the management of risks faced by organizations.* *Module 2: Risk management guidelines: Module 2 focuses on the ISO 31000:2018 standard, the standard provides guidelines on how to manage risks in an organization. ISO 31000:2018 explains the fundamental concepts and principles of risk management and describes a framework and processes for risk identification and management.* *Module 3: Risk assessment techniques: In this module the main module is IEC 31010:2019, the standard presents a comprehensive set of risk assessment techniques, both qualitative and quantitative, to support organizations in understanding and managing risks.* *Module 4: Risk management guidelines on using ISO 3100 in management systems: In this module the IWA 31:2020 standard provides guidance for the correct integration of the ISO 31000 standard in organizations that have already implemented or are in the process of implementing one or more management systems and explains the connection to the high-level structure of the management systems standards management.* *Module 5: Traceability in the feed and food chain: The module is based on the EN ISO 22005:2007 standard, it provides general principles and basic requirements for the design and implementation of the system, Traceability system means all the data and operations capable of maintaining the desired information about a product and its components throughout a segment or the entire chain of food/feed production and use.*
Equivalent in ECTS	*4*
Certificate	*Issued by the course provider*
Duration in hours	100 learning hours
Pre-requisites	*The course is designed for university students (undergraduate or graduate) and other individuals with similar backgrounds.*

Course Provider	*UNIVERSITY OF LIFE SCIENCES TIMISOARA, ROMANIA* *https://www.usab-tm.ro/*
Teaching board	*Prof. habil. Camelia Tulcan; Prof. Sorina Popescu and DVM, PhD Student Roberta Tripon*
Registering for the training:	*For inquiries and registration details, please contact the training coordinator at microcredite.fita@usvt.ro*

CARBON FOOTPRINT ASSESSMENT

Course Title	**CARBON FOOTPRINT ASSESSMENT**
Course Description	*The course aims to familiarise students with the basic concepts and concepts related to the circular economy and green business, Greenhouse gases, carbon footprint of products, requirements and guidelines for quantification, Adaptation to climate change, Guidelines on vulnerability, impacts and risk assessment,and net zero guidelines. introduced by the standards EN ISO 14067:2018, EN ISO 14090:2019, EN ISO 14091:2021, EN ISO 22526-1:2021 and IWA 42:2022.*
Course Topics	*The course encompasses the following modules:* *Module 1: Greenhouse gases — Carbon footprint of products — Requirements and guidelines for quantification EN ISO 14067:2018: This module focuses exclusively on the climate change impact category and specifies principles for calculating greenhouse gas (GHG) emissions across a product's life cycle, from raw material acquisition to end-of-life. It includes definitions of key terms, such as primary and secondary data, biogenic material, and concepts like life cycle assessment (LCA) and carbon offsetting. The module also outlines the requirements for CFP reporting, which ensures consistency, accuracy, and transparency in GHG measurement* *Module 2: EN ISO 14090:2019—Adaptation to climate change - Principles, requirements and guidelines: module 2 provides principles and guidelines for adapting to climate change. It emphasizes the need for organizations to assess climate impacts and integrate adaptation strategies across their operations. The standard outlines key principles such as flexibility, sustainability, and systems thinking, encouraging organizations to incorporate climate adaptation into their policies and procedures.* *Module 3. EN ISO 14091:2021 Adaptation to climate change — Guidelines on vulnerability, impacts and risk assessment: Guidance on screening assessments and impact chains is provided by EN ISO 14091:2021, which applies to all organizations regardless of their size, type, or nature, also covers risks resulting from a changing climate.* *Module 4. EN ISO 22526-1:2021: EN ISO 22526-1:2021 helps to understand the impact of biobased plastics on the environment and learn strategies to minimize their carbon footprint.* *Module 5: IWA 42:2022 - Net zero guidelines: IWA 42:2022 provides guiding principles and recommendations to enable a common global approach to drive organizations to achieve net zero greenhouse gases emissions by 2050—at the latest. It promotes and gives guidance on taking action to address all greenhouse gases emissions, direct and indirect, in an organization's value chain.*
Equivalent in ECTS	*4*
Certificate	*Issued by the course provider*

Duration in hours	100 learning hours
Pre-requisites	*The course is designed for university students (undergraduate or graduate) and other individuals with similar backgrounds.*
Course Provider	*UNIVERSITY OF LIFE SCIENCES TIMISOARA, ROMANIA* *https://www.usab-tm.ro/*
Teaching board	*Prof. Dr. Camen Dorin Dumitru*
Registering for the training:	*For inquiries and registration details, please contact the training coordinator at microcredite.fita@usvt.ro*

BIOMASS AND GOOD PRACTICES IN THE MANAGEMENT OF DEGRADED AND DESERTIFIED LANDS

Course Title	**BIOMASS AND GOOD PRACTICES IN THE MANAGEMENT OF DEGRADED AND DESERTIFIED LANDS**
Course Description	*The course aims to familiarize students with basic concepts and terms such as land degradation, desertification, solid biofuel and green standards. A key emphasis of the course is concepts of good practices to combat land degradation and desertification in the context of the standards ISO 14055-1:2017, ISO/TR 14055-2:2022, EN ISO 17225- 1:2021, EN ISO 18135:2017, EN ISO 17828:2015.*
Course Topics	*The course encompasses the following modules:* *Module 1: Solid biofuels - Fuel specifications and classes: this module covers the classification, quality standards, and trading principles for organic-based fuels used in heat and power generation, with emphasis on forestry, agricultural, and aquatic biomass materials.* *Module 2: Solid biofuels, sampling plans: An exploration of EN ISO 18135:2017, focusing on standardized methods for sampling solid biofuels, covering manual and mechanical sampling techniques for various materials from wood pellets to straw bales, ensuring quality control in biofuel trading.* *Module 3: Management of land degradation and good practices to combat land degradation and desertification: module 3 focuses on the standard EN ISO 18135:2017 which covers methods for sampling solid biofuels, covering manual and mechanical sampling techniques for various materials from wood pellets to straw bales, ensuring quality control in biofuel trading.* *Module 4: Biomass as a solid biofuel, method of determining bulk density: EN ISO 17828:2015 standard, focusing on the determination of bulk density for pourable solid biofuels. Bulk density is crucial for evaluating fuel deliveries on a volume basis, calculating energy density, and planning storage and transport requirements. Applying methods using specific containers and understanding the factors affecting bulk density, such as compaction during transport. The module covers sample preparation, calculation methods, and the impact of environmental conditions and handling solid biofuels.* *Module 5: Good practices to combat land degradation and desertification. Case studies: This module covers the standard ISO/TR 14055-2:2022, providing case studies on combating land degradation and desertification. The standard is exploring real-world examples addressing climate-driven and human-induced impacts on ecosystems, such as soil erosion and biodiversity loss.*
Equivalent in ECTS	*4*
Certificate	*Issued by the course provider*
Duration in hours	100 learning hours
Pre-requisites	*The course is designed for university students (undergraduate or graduate) and other individuals with economic backgrounds.*
Course Provider	*UNIVERSITY OF LIFE SCIENCES TIMISOARA, ROMANIA* *https://www.usab-tm.ro/*

Teaching board	*Lecturer Petru Ioan Dragomir and Assoc. Prof. Maria Mihaela Moatar*
Registering for the training:	*For inquiries and registration details, please contact the training coordinator at microcredite.fita@usvt.ro*