



Partnership for Promotion and
Popularization of Electrical
Mobility
through Transformation
and Modernization of WB HEIs
Study Programs



Catalogue of Courses for Electrical Mobility

International Business College Mitrovica



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1. STUDY PROGRAMME – Master of Science INTERNATIONAL MANAGEMENT AND LEADERSHIP

With specializations in:

Business management

Environmental management

The Master in International Management and Leadership programme

- science and management master programmes
- strong and advanced foundation in management
- opportunity to specialize in business management and environmental management specific specializations.
- Promotes critical thinking for responsible future leader,
- The application of new innovations, technologies and associated know-how, including the transfer of technology knowledge through new courses and training will be a powerful driver of economic growth and sustainable development in the Western Balkans.

1.1. Career prospects

The current education market in Kosovo and Western Balkans is lacking programmes that enable students to learn about the effects of business and other economic and social activities and their effects on the environment. This programme aims to provide the market with potential managers and administrators that will enable businesses and other entities to contribute towards a higher efficiency of the work processes within their sectors, thus contributing to an overall increase of sustainable development.

1.2. Enrollment requirements

In order to be considered for admission at the master program students must prove the completion of a Bachelor degree in the relevance with the program of at least 3 years or 180 ECTS is mandatory.

In addition, applicants to the study programmes need to fulfill the criteria below:

- Minimum average grade of 7.5 or 7 (IBC-M Scale)
- Advanced English language skills;
- TOEFL iBT: minimum 82 points, no less than 20 in each category
- IELTS: 6.0, with a minimum of 5.5 in writing. For students with no standardized test scores:
- IBC-M Written Entry Exam for English Assessment
- Interview with IBC-M English Lecturer
- Passed IBC-M admission interview; and
- Working experience or internship completed is preferable.

As per legal instructions in Kosovo, working experience includes volunteering, internships, as well as other professional engagements. Students applying from abroad also need to demonstrate their English language as part of the admissions process. They need to provide:

- A letter of motivation, written in English;
- An official transcript of the grades from their completed Bachelor Degree.
- Proof from previous HEI if programme completed was in English. Diploma Supplement should state language the programme was completed in.
- A certificate of English Language proficiency from an internationally recognized assessor (IELTS, TOEFL, Cambridge, etc), with minimum level of B2 or equivalent, in line with the Common European

Framework Reference. More detailed information about international standardized English exams can be found below at the admission section for local students.

- An interview, conducted in English, over Skype.

1.3. Programme outcomes

Students in the International Management and Leadership Master's programme, will:

- develop a new type of interdisciplinary professional profile at a Western Balkans level;
- gain the knowledge and skills to engage with international management practices and help them become more sustainable;
- acquire an understand about how to manage a business whilst considering the implications that decisions will have on the business and environment;
- learn to connect environment with business management approaches in order to develop integrative and long-term solutions to national and international market, environment, and social challenges;
- demonstrate understanding and ethical responsibility about the impact of professional activities on environment and society;
- gain ability to assess and analyze the business environment in the local and international markets.

The graduate profile is framed in the following learning outcomes, articulated as knowledge, skills and competences, in accordance with level 7 of National/European Qualifications Framework

1.4. Master specialization Environmental Management

The master specialization update aims to provide students with the skills to handle and master all aspects of the Electric Mobility. Students will be equipped with knowledge of the most current regulations, instruction methodologies and the expertise they need to prepare the organization for an audit or inspection.

1.5 Competences

Intrapersonal competence

1.1. Self-directed, Lifelong Learning

The following competences are useful within this topic:

- ✓ The ability to analyze complex problems and develop rational solutions.
- ✓ The capacity to take initiative in one's own learning, including identifying learning objectives and seeking out resources independently.

1.2. Ability to follow new standards

- ✓ The willingness and ability to adapt to new situations and learn from new experiences.
- ✓ Skills in reflecting on one's own learning processes and understanding one's learning strengths and weaknesses.
- ✓ The ability to follow-up on industry wide innovation and adjusting to standards imposed by macro-level entities.

1.3. Intellectual, Innovative, Critical Thinking

- ✓ The ability to think creatively, including generating innovative solutions and approaching problems from different angles.

- ✓ The ability to conduct research, including identifying relevant sources, synthesizing information, and drawing reasoned conclusions.

1.4. Ethical

- ✓ The ability to make decisions based on ethical principles and engage in moral reasoning.

1.5. Conscientiousness

- ✓ Competency in using a range of technological tools and platforms and keeping up with emerging technologies.
- ✓ The willingness and ability to adapt to new situations and learn from new experiences.

Engineering competence

2.1. Technical, Analytical

- ✓ Knowledge of EV components such as battery systems, electric motors, and power electronics.
- ✓ Understanding of charging technologies including different types of charging stations and methods.
- ✓ Ability to manage projects efficiently, including resource management and budgeting.
- ✓ Leadership skills to lead multidisciplinary teams in the development of electric mobility solutions.
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- ✓ Ability to manage projects efficiently, including resource management and budgeting.
- ✓ Leadership skills to lead multidisciplinary teams in the development of electric mobility solutions.

1.6. Scientific

- ✓ Understanding of the environmental benefits of electric mobility, including reduced greenhouse gas emissions and decreased air pollution.
- ✓ Skills in life cycle analysis to assess the environmental impact of electric vehicles and their components.
- ✓ Ability to manage projects efficiently, including resource management and budgeting.

- ✓ Leadership skills to lead multidisciplinary teams in the development of electric mobility solutions.

1.7. Mathematical

- ✓ Ability to manage projects efficiently, including resource management and budgeting.
- ✓ Leadership skills to lead multidisciplinary teams in the development of electric mobility solutions.

1.8. Innovative, Creative, Design Thinking

- ✓ Skills in identifying business opportunities in the electric mobility sector.
- ✓ Ability to innovate and develop new solutions in the field of electric mobility.
- ✓ Ability to manage projects efficiently, including resource management and budgeting.
- ✓ Leadership skills to lead multidisciplinary teams in the development of electric mobility solutions.

Interpersonal competence

3.1 Communication

- ✓ Ability to communicate effectively with various stakeholders, including policymakers, industry players, and the public.

1.9. Teamwork

- ✓ Skills in interacting effectively with others, including empathy, active listening, and negotiation skills.
- ✓ Understanding and respecting diverse perspectives and cultures, and the ability to work effectively in diverse teams.
- ✓ The ability to understand and manage one's own emotions and to understand the emotions of others.

1.10. Leadership, Project Management

- ✓ Ability to manage projects efficiently, including resource management and budgeting.
- ✓ Leadership skills to lead multidisciplinary teams in the development of electric mobility solutions.
- ✓ The willingness to take initiative and the ability to identify and act upon opportunities.

1.11. Social, Intercultural

- ✓ Networking skills to build partnerships and collaborations in the electric mobility sector.
- ✓ Group dynamic among professionals and expert groups.

2. List of Courses

The Study program for Master of International Management and Leadership, Specialization in Environmental management, module Electric mobility, will be applied from the winter semester of the 2024/2025 school year.

The subjects that are going to be modernized are shown in Table 1.

	Courses	S	Course Status.	Hours			ECTS
				L	E	Oth.	
SECOND/YEAR							
1.	Environmental Law and EU Policies (EM Regulations and Policies included)	3	C	2	2	-	5
2.	Electric Mobility Management Systems (New Course)	3	E	2	2	-	5
3.	Applied Natural Resources Management (Modernized)	3	C	2	2	-	5
4.	Interdisciplinary project (New Course)	3	C	2	2		10
5.	Environmental Science and Technology Updated course	3	C	2	2	-	5
Total ECTS=							30
NOTE: designations: S=semester; lectures; E=exercises; Oth.=other types of lectures; ECTS=number of ECTS credits; Status of the course: C=Compulsory; E=elective; Elective courses: the election of the courses is made at the enrolment of the school year in consultation with the Head of the study program and professor of the elective course.							

2.1. Competences related to courses

Competencies		1	2	3	4	5
Generic competencies	Capacity for analysis and synthesis	X	X	X	X	X
	Capacity to apply knowledge in practice	X	X	X	X	X
	Oral and written communication	X	X	X	X	X
	Development of computer skills	X	X			X
	Development of research skills	X	X			X
	Information management skills		X	X		
	Critical and self-critical abilities	X		X		X
	Capacity to adapt to new situations	X	X		X	
	Capacity to generate new ideas (creativity)	X	X	X	X	X
	Troubleshooting	X		X	X	X
	Teamwork	X	X	X	X	X
	Leadership				X	
	Ability to work in a multidisciplinary team	X	X	X	X	X
	Ability to communicate with people in the field	X	X		X	
	Initiative and entrepreneurial spirit					
	Integrity and ethical commitment	X	X	X	X	X
	Making decisions	X	X	X	X	
	Synthesis of information to determine viewpoints, perspectives, problems or trends in traffic safety			X	X	X
	A holistic and proactive approach	X	X	X	X	X
	Appreciation of differences					
Specific subject competencies	Acquiring knowledge and skills for training in a comprehensive understanding of responses at the output of the automation systems	X				
	Ability to apply acquired knowledge in real situations.	X				
	Acquiring knowledge to independently determine stability of automation system	X				
	Acquiring knowledge to reduce multi-block diagram system to one block diagram	X				
	Acquiring knowledge and skills to understand mechatronics systems		X			

	Acquiring knowledge and skills to understand sensors, converters, actuators and mechanical drive systems		X			
	Acquiring knowledge and skills for a comprehensive understanding of microprocessors, programmable logic controllers, modules		X			
	Acquiring knowledge for the identification and analysis problems in the field of applied fluid mechanics			X		
	Acquiring knowledge about the pumps, fluid motors, friction, valves, fittings, power required by pumps and pump efficiency			X		
	Acquiring knowledge about the fans, blowers, compressors, and the flow of gases			X		
	Acquiring knowledge about analysing simple oscillations of particle, solid and flexible body				X	
	Identifying and solving problems of motion and oscillations of solid body and system of particles using the laws of motion				X	
	Understanding natural frequencies of the mechanical structures				X	
	Acquiring knowledge about impact of the different harmonic and non-harmonic forces (unbalance, misalignment bending force, bump forces) on the structures				X	
	Acquisition of knowledge and skills for the ability to comprehensively understand the concept of e vehicles and also develop the concept of E engineering					X
	Gaining knowledge of the application of safety standards and regulations in E vehicles.					X
	Practical application of acquired knowledge in real situations.					X
	Development of initiatives, e vehicles, and e mobility in engineering					X
	Gaining knowledge about identification, analysis, and evaluation of negative emissions					
	Acquiring skills and basic knowledge to for the implementation of measures to					

	mitigate and prevent negative emissions into the environment					
	Acquiring knowledge about the principles of sustainable development and assess the carbon footprint				X	
	Acquiring knowledge and skills in the development and planning of space and mobility for people with reduced mobility.				X	

2.1. Course name: Environmental Law and EU Policies			
Semester	ECTS	Number of lessons	Student Workload
3 rd semester	5	16	125 Hours
Programme	International Management and Leadership	Academic Year	2023/2024
Specialization	Environmental Management	Course type	Compulsory
Course Description			
This course integrates the principles of environmental law with a specialized focus on environmental management. The course will review the ways and regulations of the interaction of individuals, communities, businesses, and governments with environmental systems. Students will gain a deep understanding of the legal frameworks governing environmental protection, natural resource management, and sustainable development. The course emphasizes the intersection of legal principles with practical strategies for effective environmental management. Students discuss and evaluate the harmonization of EU directives with Kosovo Directives. In addition, through assignments and class projects, course will cover the legal research, writing, and argument that are critical for the practice of law. Most of the lectures will be available for online viewing, leaving more class time for discussions, and other activities. The European Green Deal sets clear targets to reduce greenhouse gas emissions from transport. In this context, electric vehicles and electrification of road transport will play a key role in reducing greenhouse gas emissions from transport, and road transport in particular.			
Learning Outcomes			
The student shall know and understand: - Show a comprehensive understanding of foundational environmental law principles, including national and international regulations, treaties, and frameworks. - Critically evaluate environmental policies, considering their development, implementation, and impact on ecological sustainability and social welfare. - Analyze and interpret case studies related to environmental law, identifying key legal issues, precedents, and potential solutions. - Contribute to the development of environmental policies by identifying legal gaps, proposing improvements. - Collaborate with various stakeholders, including government agencies, NGOs, industry representatives, and communities, to address environmental challenges through effective engagement and cooperation.			

- The international and EU regulations governing electric mobility.
- The key legal requirements and standards for the safe use of electric mobility.

The student shall have skills in:

- Develop critical thinking skills to assess and evaluate the legal implications of environmental policies, regulations, and cases, and propose well-reasoned solutions.
- Cultivate problem-solving skills to address complex environmental challenges, applying legal frameworks and proposing effective solutions in compliance with environmental laws.
- Enhance oral and written communication skills to effectively communicate legal analyses, present arguments, and articulate recommendations to diverse audiences.
- Develop skills in analyzing environmental policies, identifying areas for improvement, and contributing to the development of effective and sustainable environmental policies.
- Enhance teamwork and collaboration skills by working on group projects, participating in discussions, and engaging in collaborative efforts to address complex environmental law challenges.

The student shall acquire competencies to:

- Analyze complex problems and develop rational solutions;
- Think creatively, including generating innovative solutions and approaching problems from different angles;
- Maintain and upgrade capacity for adapting to new situations, solving problems, and teamwork;
- Be aware of responsibility for the environment protection, people, and property in the process of transporting dangerous goods and sensitive items;
- Be aware of professional responsibility;
- Be aware of workload and limitations;
- Adapt to new situations and learn from new experiences;
- Communicate effectively with various stakeholders, including policymakers, SMEs, logistics companies, and the public;
- Take initiative and the ability to identify and act upon opportunities and make decision(s);
- Maintain the confidentiality of the information and act in accordance with prescribed rules and procedures;
- Apply knowledge in practice;
- Extend computer, oral and written competencies;
- Develop research skills;
- Extend capacity for adapting to new situations;
- Extend capacity for generating new ideas (creativity);
- Work in a multidisciplinary team;
- Understand the relationship between activity and the public;

Examination and Assessment

Students will be graded through a mix of examinations and class work. Class participation will also be taken into account.

Grades will be based on:

- Take home Mid-term exam 25%
- Take home Final exam (cumulative) 25%
- Paper assignments (750 - 1,000 words) 20%
- Legal Brief (2,000 - 2,500 words) 20%
- Class participation & class discussions 10%

Content of Teaching (subjects and themes)

- Overview of the EU legal system and institutions

- Evolution and development of EU environmental law
- Principles and objectives of EU environmental policy
- Relationship between EU and national environmental laws
- Key directives and regulations addressing air, water, and soil quality
- Linkages between environmental law and other EU policies (e.g., agriculture, energy, transport)
- Environmental Impact assessments and the integration of environmental concerns
- Cross-sectoral approaches to sustainable development
- The European Green Deal and its implications for environmental governance
- Collaboration with non-governmental organizations and industry stakeholders
- Development and analysis of environmental policies
- Integration of environmental considerations into planning processes
- Role of environmental impact assessments in policy development
- Collaboration between legal and policy frameworks for effective outcomes
- Policy ambitions and policy instruments for electric mobility

Learning Materials

The following are the recommended readings for this course. The required reading for each class will be posted on Google classroom one week before lectures.

- James Salzman and Barton H. Thompson Jr. *2021). Environmental Law and Policy, Fourth Edition;
- COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS Sustainable and Smart Mobility Strategy – putting European transport on track for the future
- COM/2020/789 final
- Robert V. Percival, Christopher H. Schroeder, Alan S. Miller, and James P. Leape. Environmental Regulation: Law, Science, and Policy 8th Edition
- Zygmunt J.B. Plater, Robert H. Abrams, William Goldfarb, and Daniel Nagin (2016). Environmental Law and Policy: Nature, Law, and Society" Aspen Publishing
- Maria Lee and Dr. Emma Lees. 2014. "EU Environmental Law, Governance and Decision-Making: 2nd Edition"
- Ludvig Kramer, Jannike Klint Ahrens, and Ulf Bjornstad (2018). "Principles of European Environmental Law
- Thijs F.M. Etty and Han Somsen. Yearbook "Environmental Law in the European Union: The EU and Its Member States
- Petrauskiene, K.; Dvarioniene, J.; Kaveckis, G.; Kliugaite, D.; Chenadec, J.; Hehn, L.; Pérez, B.; Bordi, C.; Scavino, G.; Vignoli, A.; et al. Situation Analysis of Policies for Electric Mobility Development: Experience from Five European Regions. Sustainability 2020, 12, 2935. <https://doi.org/10.3390/su12072935>William H. Rodgers; Elizabeth Burleson (2016). Environmental Law, Second edition , Eagan, Thomsen Reuters
- James Salzman, Barton H. Thompson Jr (2006).Environmental Law and Policy, Foundation Pr
- Alexandra B. Klass, J. B. Ruhl, James Salzman, and John Copeland Nagle (2008). The Practice and Policy of Environmental Law, Foundation Press.
- https://europa.eu/european-union/law_en
- http://www.assembly-kosova.org/common/docs/ligjet/2009_03-L-025_en.pdf

2.2. Course name: Electric Mobility Management Systems			
Semester	ECTS	Number of lessons	Student Workload
3rd semester	5	15	125 Hours
Programme	International Management and Leadership	Academic Year	2023/2024
Specialization	Environmental Management	Course type	Elective
Course Description			
Electric vehicles are the future of transportation. Electric mobility has become an essential part of the energy transition, and will imply significant changes for vehicle manufacturers, governments, companies and individuals. This course will delve into electric mobility, unpacking the basic concepts of e-mobility, which kind benefits e-mobility can bring, how to plan and implement a e-transition in mobility and why it is important for a city to have a SUMP, Sustainable Urban Mobility Plan. This is the course in the Environmental Management programme, which aims to close the knowledge gap around renewable and smart energy solutions. The course aims to provide a simple yet technical basis for those interested in learning more about smart and green energy solutions in transport.			
Learning Outcomes			
- Assess the environmental technologies and techniques with a strong focus on multidisciplinary and problem-based technologies; - Ability to manage projects efficiently, including resource management and budgeting. - Group dynamic among professionals and expert groups. - Ability to innovate and develop new solutions in the field of electric mobility Leadership skills to lead multidisciplinary teams in the development of electric mobility solutions.			
Examination and Assessment			
Students will be graded through a mix of examinations and class work. Class participation will also be taken into account. The assessment will be divided in two parts: 1) The final examination will count for 50% of students' grades. 2) The remaining 50% of the grade will be based on the term paper (seminar), oral presentations (term paper topic), class participation and, if judged necessary, group work.			

The focus will be on electric mobility and its evolution over time, which will allow students to analyze the changes induced by the electric vehicle on the mobility system.

- Introduction to E-mobility. E-mobility in the sustainable development paradigm
- E-mobility Planning and Implementation
- Productive use cases in EV Rural and Urban context
- Retrofitting of fuel-based vehicles to EV and other
- Maintenance and Safety of Evs and batteries
- Cost-effective and suitable EV charging management
- Electric Mobility Business Models and Exploitation Pathways

Learning Materials

The following are the recommended readings for this course. The required reading for each class will be posted on Google classroom one week before lectures.

- VanLoon, W. Gary; Duffy, J. Stephen (2000). Environmental Chemistry, Oxford University Press.
- Wrigh, T. Richard; Boorse, F. Dorthy (2011). Environmental Science, Pearson.
- Lennart Nilsson, Per Olof Persson Lars Rydén, Siarhei Darozhka; Audrone Zaliauskiene (2007). Cleaner Production Technologies and Tools for Resource Efficient Production, The Baltic University Press.
- Misra K.B. (2000). Clean Production-Environmental and Economic Perspectives, Springer.

2.3. Course name: Applied Natural Resources Management

Semester	ECTS	Number of lessons	Student Workload
1 st semester	5	15	125 Hours
Programme	International Management and Leadership	Academic Year	2023/2024
Specialization	Environmental Management	Course type	Compulsory
Course Description			
This course covers key issues associated with managing natural resources in a sustainable way and balancing human demand with the need to maintain ecological integrity. The course will review basic ecological principles that underpin natural resource management 1) problems associated with the use/misuse of our natural resources and 2) current management practices associated with the conservation of natural resources. • Acquire the main technical competencies of the mobility manager. • Understand the technology and city planning issues involved in the shift from internal combustion traction to electric traction and from traditional logistics to sustainable logistics.			

- Know the main technologies underlying sustainable logistics.
- Understand the strategic role of urban and non-urban infrastructures and define the elements necessary for a shift of the mobility system.
- Obtain the competencies to understand the peculiar aspects of this transition (new traction technologies, new industrial models, sustainable planning of the production processes and of the products, social awareness and informing people, training management, Human resource management, administrators, and politicians). A study project approach will be employed to demonstrate theory in practice.

Learning Outcomes

On successful completion of the course students will have the knowledge to:

- Understand the key ecological principals that underlie natural resource management;
- Understand the roles of various stakeholders as they relate to natural resource management;
- Understand the role of natural resource management in the broader context of sustainability, climate change, and ecosystem health.

The student shall have skills to:

- Apply key concepts in the field of natural resource management for problem solving across a range of contexts;
- Synthesize and critically analyze information from the primary literature and other sources and to communicate this information through written or oral modes;
- Skills in reflecting on one's own learning processes and understanding one's learning strengths and weaknesses.

The students will have the following competencies:

- Holistic understanding of the concepts of sustainability and resilience,
- Ability to independently research the sustainability and resilience of the environment at different levels, to conduct analyzes, experiments, assessments and evaluations, as well as the ability to synthesize and interpret results, formulate conclusions, and present the research in written and oral form,
- Ability to develop projects which sustain good quality and rationally uses natural resources (energy, raw materials, water and land),
- The willingness and ability to adapt to new situations and learn from new experiences.
- The ability to follow-up on industry wide innovation and adjusting to standards imposed by macro-level entities.

Examination and Assessment

Students will be graded through a mix of examinations and class work. Class participation will also be taken into account. The assessment will be divided in two parts:

- 10% Attendance
- 50% Interdisciplinary semester project
- 40% Oral exam

- European natural resource management: historical/current issues and practices
- Spatial analysis/Key resources and tools used in natural resource management.
- Basic ecological principles & their application to natural resource management

- Ecological use of soil and water
- Wildlife ecology and management
- Forest ecology and management
- Mineral resources and environment
- Global change biology (climate change, land-use change, etc.) as related to natural resource management
- Ecosystem goods and services

Learning Materials

The following are the recommended readings for this course. The required reading for each class will be posted on Google classroom one week before lectures.

- Mike Alexander, Management Planning for Nature Conservation, Springer, 2008
- Malcolm Ausden, Habitat Management for Conservation, Oxford University Press, 2007
- Wright, Richard T.: Environmental Science, Toward a Sustainable Future.

2.4. Course name: Interdisciplinary project

Semester	ECTS	Number of lessons	Student Workload
3 rd semester	10	15	250 Hours
Programme	International Management and Leadership	Academic Year	2023/2024
Specialization	Environmental Management	Course type	Elective - Lectures (2L) + Exercises (2E)
Course Description			
The Interdisciplinary project aims to connect learning goals in courses Environmental Law and EU Policies, Applied Natural Resources Management, Environmental Science and Technology, Electric mobility management systems. In this regard, to participants (candidates) well well-defined topic is to be delegated with a mission to meet the requirements of the project. Besides the appropriate topic(s), the questions and desirable methodology scope will be shared among the groups by the respective teaching staff. All candidates dedicate themselves to the Study Development (group work) and to the Project Retrospective Report (individual work). Therefore, all activities in the project refer to both, individual and teamwork, and the final output implies the desk study that should be presented to respective professors by all group members. Working in groups and dedicating themselves to the study answers, the participants create and develop the study structure, which in the final instance will represent the learning output of all group members. An interdisciplinary project in this regard envelops the multiple learning objectives from different courses, extended knowledge, and multi-corner application of the research methods.			
Learning Outcomes			

The student shall know and understand:

- The fundamental principles of environmental law and EU policies related to the sustainable mobility
- Key EU directives and regulations governing the Green Deal
- Distinguishing between different policy perspectives and different levels of government pertaining to electric vehicles
- Understanding of the environmental benefits of electric mobility, including reduced greenhouse gas emissions and decreased air pollution.
- Understand the technology and city planning issues involved in the shift from internal combustion traction to electric traction and from traditional logistics to sustainable logistics.
- Know the main technologies underlying sustainable logistics.
- Understand the strategic role of urban and non-urban infrastructures and define the elements necessary for a shift of the mobility system.

The student shall have skills in:

- Interpret and apply relevant environmental laws and EU policies to real-world scenarios involving the electric mobility
- Skills in life cycle analysis to assess the environmental impact of electric vehicles and their components
- Obtain the competencies to understand the peculiar aspects of this transition (new traction technologies, new industrial models, sustainable planning of the production processes and of the products, social awareness and informing people, training management, Human resource management, administrators, and politicians)
- Networking skills to build partnerships and collaborations in the electric mobility sector.
- The ability to follow-up on industry wide innovation and adjusting to standards imposed by macro-level entities.

The student shall acquire competencies to:

- Networking skills to build partnerships and collaborations in the electric mobility sector.
- Group dynamic among professionals and expert groups.
- Advising organizations on compliance with environmental laws and policies.
- Leading risk management initiatives and making informed decisions to minimize risks in the transportation of hazardous goods.
- Communicating effectively about risks to stakeholders.
- Ensuring the safe and compliant transportation of hazardous materials across different modes of transport.
- Responding appropriately to emergencies involving hazardous goods.
- Implementing sustainable and efficient supply chain practices.
- Innovating and adapting supply chain strategies to meet evolving environmental and safety regulations.
- Competency in using a range of technological tools and platforms and keeping up with emerging technologies.
- The willingness and ability to adapt to new situations and learn from new experiences.
- The willingness to take initiative and the ability to identify and act upon opportunities.
- The ability to make decisions based on ethical principles and engage in moral reasoning.
- The ability to follow-up on industry wide innovation and adjusting to standards imposed by macro-level entities.

Examination and Assessment

The assessment will be divided in two parts:

- The written part will count for 60% of students' grades.
- The oral part will be graded with 40% .

2.5. Course name: Environmental Science and Technology			
Semester	ECTS	Number of lessons	Student Workload
3rd semester	5	16	125 Hours
Programme	International Management and Leadership	Academic Year	2023/2024
Specialization	Environmental Management	Course type	Compulsory
Course Description			
The aim of the course is to prepare the professionals with an interest in the environmental sciences and maintain environmental integrity based on multidisciplinary and problem-based technology development. The course addresses the technology assessment, carbon management and policy making and analysis with governmental agencies, environmental consultancies and private companies. The course presents the theories of the environmental problems we face, and gives practical information how to analyze them and how to approach and solve impact on the environment using advanced technological tools. In the focus of Electric Mobility and Environmental Impact Reduction the issues of climate change and then conduct a prospective analysis of the evolution of greenhouse gases emissions throughout the 21st century, will be analyzed, as well as the role of transport in terms of local air pollution and noise. To determine the environmental performance of different types of vehicles, there will be presented life-cycle analysis and then mobilize this method to compare the performance of thermal and electric vehicles in terms of preservation of the local and global environment.			
Learning Outcomes			
<u>Knowledge</u> The student will: - Be able to utilize advances in environmental issues and technology to resolve problems and anticipate implications; - Be able, on a scientific basis, to analyse and reflect over the knowledge in the above-mentioned areas and to identify scientific problems using the analysis from advance environmental technology; - Understanding of the environmental benefits of electric mobility, including reduced greenhouse gas emissions and decreased air pollution. - Be able to develop methods and models for environmental management issues, and evaluate and solve assignments concerning environmental and management issues in private and public enterprises; - Explain the wider policy context of Green Deal - Manages work and development situations that are complex, unpredictable and require new			

technological solutions.

Skills

The student will:

- Seeks answers or solutions to scientific or technological problems;
- Makes the most of his/her knowledge of science and technology ;
- Communicates in the languages used in science and technology solutions individually or in a group.

Competencies The student will:

- Assess the environmental technologies and techniques with a strong focus on multidisciplinary and problem-based technologies;
- Plan and manage projects which might include the management, risk assessment, problem-solving, and analysis.

Examination and Assessment

Students will be graded through a mix of examinations and class work. Class participation will also be taken into account.

The assessment will be divided in two parts:

- 1) The final examination will count for 50% of students' grades.
- 2) The remaining 50% of the grade will be based on the term paper (seminar), oral presentations (term paper topic), class participation and, if judged necessary, group work.

Content of Teaching (subjects and themes)

- Strategic Technological Pathways for Sustainable Development
- Pollution and prevention
- Emerging Technologies in Environmental Sciences
- Basic Concepts of Cleaner Technologies
- Formal Methods for Designing Clean Processes
- Cleaner Production Case Studies
- Environmental Impact Statement
- Environmental Technology and Industrial Development in EU
- Environmental Life-Cycle Assessment and Cost Analysis
- Waste Minimization / Elimination: A Key to Successful Business
- Reducing Risk by Controlling the Environment
- Education and Manpower Development for Cleaner Production
- Energy technology
- Experimental part: Introduction to Sustainability and team work
- Collaboration between legal and policy frameworks for effective outcomes
- Policy ambitions and policy instruments for electric mobility.

Learning Materials

The following are the recommended readings for this course. The required reading for each class will be posted on Google classroom one week before lectures.

- VanLoon, W. Gary; Duffy, J. Stephen (2000). Environmental Chemistry, Oxford University Press.
- Wringh, T. Richard; Boorse, F. Dorthy (2011). Environmental Science, Pearson.
- Lennart Nilsson, Per Olof Persson Lars Rydén, Siarhei Darozhka; Audrone Zaliauskiene (2007). Cleaner Production Technologies and Tools for Resource Efficient Production, The Baltic University Press.
- Misra K.B. (2000). Clean Production-Environmental and Economic Perspectives, Springer.