Course Outline

Course number	**RBM102**						
Course title	Environmental Science and Sustainability						
Credit points	1,5 ECTS						
Total hours	16						
Lecture hours	11						
Seminar and other hours	5						
Course level	Bachelor						
Prerequisites	English B2						
Category	**Mandatory**	**X**	Restricted elective		Free elective		

COURSE RESPONSIBLE

Name	***Academic degree***	***Academic position***
Juris Burlakovs	Dr	Visiting Docent

COURSE TEACHERS

Name	***Academic degree***	***Academic position***
Juris Burlakovs	Dr	Visiting Docent

COURSE ABSTRACT

Study course Environmental Science and Sustainability is multidisciplinary and focuses on the sustainable concepts of Environment, Natural Processes in frame of Circular Economy & Technology. Materials and energy in nature and industry transform in cyclic way by human actions and this course provides moderate to advanced understanding of various processes of these transformations from the perspectives of the environment and sustainability. The course additionally contains actual discussions on sustainable natural ecosystems and their valuation as well as environmental management important for decision makers, authorities, lawyers and business people. This course is giving the wider perspective how society is changing the attitudes and shifting the process from linear (open loop) systems (production-product-waste) to closed loop circular economy system or 'beyond the zero waste system' where wastes become inputs for new processes and so on. Significant part of the course is devoted to Environmental Health and Legislation.

LEARNING OUTCOMES

KNOWLEDGE: The course will provide students theory, analytical methodology and practical challenges in the field of environmental science and sustainability. Part of course will provide knowledge on material flows and recycling, understanding of processes of environmental assessment, material and energy flow analysis, life cycle analysis, multi-criteria assessment, cost benefit and eco-efficiency analysis as well as legislation issues from the experience of different countries. Resources future depletion and economic crises will be analysed in light of rising circular economy approach versus linear economy.

SKILLS: Simple practical skills to plan resources optimization and waste reduction, ecomapping, ecosystems valuation and ecological feet calculation will be gained. Course alumni will be able to discuss environmental legislation problems based on multinational experience. Further communication skills of practical environmental management and labor protection knowledge for the general public, representatives of related industries, journalists, politicians and other public administrators will be acquired. Students will be introduced how to train abilities to present environmental and sustainable development problems, including knowledge of the circular economy in various formats and critically evaluate the information presented in the media.
COMPETENCE: Competence based learning includes international Law Casus analyses and work with environmental consultancy documents that are compulsory for companies to meet environmental legislation in practice. During the seminars, knowledge and skills will train competences necessary for future business work as well as ability to understand the principles of environment and sustainable development needed for enterprise and local government administration work performance.

GRADING CRITERIA

For successful acquirement of study course at least "5" in 1-10 grade system is needed (on evaluation basis then the mark: CREDITED/*ieskaitīts* will be provided), 2 assignments (group work) should be submitted and defended during seminars – these seminars include practical use of knowledge and skills gained during lectures as personal training process. At the end of study course there is written exam with open access to study material use. Evaluation is either positive (credited) or negative (uncredited).

GRADING CRITERIA

Criteria	**Weighting**
Exam	50%
Course assignments 2 units	50% (25+25%)

COURSE PLAN – MAIN SUBJECTS

No.	***Main subjects***	***Planned hours***
1	Environmental science and Sustainability – The Introduction	2 x 45 min
2	Energy and Climate Change	4 x 45 min
3	Resources, Depletion and Circular economy approach	2 x 45 min
4	Environmental Legislation and Decision Analysis	2 x 45 min
5	Environmental Pollution, Revitalization and Health	2 x 45 min
6	Circular Economy and Global Economic Cycles	4 x 45 min