

Course Unit: 15733 – Circular Economy and Sustainability

Year 3 Semester 6 ISCED Code: 712 ECTS: 3,0

Type of Course Unit: Compulsory Delivery Mode: Face-to-face Language of Instruction: Portuguese

COURSE COORDINATOR: Maria de Fátima Nunes de Carvalho

HOURS OF WORK

TOTAL HOURS	Contact Hours								Hours in autonomous work
	Theory	Theory and practice	Practical and laboratory work	Field work	Seminar	Internship	Tutorial guidance	Other	
75		45							30

Prerequisites (if applicable): Not applicable

LEARNING OUTCOMES (knowledge, skills and competence)

At the end of the course the student should acquire knowledge about:

Circular economy concept, legislation, evaluation methods of the reuse potential of materials in function of their physicochemical characteristics.

CONTENTS

1. Know the concept of circular economy and national and European rules
 - Waste
 - Water reuse
 - Food waste
 - Raw - secondary raw
 - Eco-design
 - Fertilizers
 - Strategy for plastic
2. Evaluation of the physical and chemical composition of natural and secondary materials in order to assess the application potential of these raw materials within a circular economy concept.
3. Importance of the quality control in the economy circular concept.

DEMONSTRATION OF THE CONTENTS COHERENCE WITH THE COURSE UNIT'S LEARNING OUTCOMES

The contents were defined in terms of objectives and skills to be acquired by students. It is expected that the approach to different subjects enables students to understanding the concepts taught.

TEACHING METHODOLOGIES

Classes will be based on the methodology learn based problems in which students will be challenged to study a waste of their region, characterizes it, based on bibliographic data and find solution to it. Simultaneously will be taught theoretical concepts needed to solve the selected problem.

DEMONSTRATION OF THE COHERENCE BETWEEN THE TEACHING METHODOLOGIES AND THE LEARNING OUTCOMES

The use of Learning by solving problems intends create a new dynamic in the classroom, making it more creative and motivating for students..

EVALUATION METHODS

Assessment: The final grade will be based on research work they have done.

MAIN BIBLIOGRAPHY

- Leitão, A.; 2015. Economia circular: uma nova filosofia de gestão para o séc. XXI. Portuguese Journal of Finance, Management and Accounting. ISSN: 2183-3826. Vol 1, Nº 2.
- Dias, R. 2014. Eco Inovação. Caminho para o Crescimento Sustentável. Atlas. ISBN-13: 978-8522485505.
- ECOPRODUTIN, Eco – Produção e a Competitividade Empresarial. Associação Empresarial de Portugal. Depósito Legal 394590/2015. Junho de 2015.
- A ECONOMIA CIRCULAR Interligação, criação e conservação de valor. Relatório final. Estudo de opinião sobre industrialização, economia verde, uso sustentável de recursos e educação sobre o mar. Setembro de 2014. ciencias.ulisboa.pt/sites/default/files/fcul/unidinvestig/eplanning/Relat%20Final%20Estudo%20de%20Opinio%20-%20SET2014.pdf.
- From Niche to Norm. (2015). Suggestions by the group of Experts on a “Systemic approach to eco-innovation to achieve a low carbon, circular economy. European Commission. Directorate I- Climate Action and Resource Efficiency.

Year of implementation: 2017/2018 | Date of approval by the Technical-Scientific Board: 2016-07-27