

# CIRCULAR DESIGN WITH PLASTICS

**28.NOV-16.DEC.2022**

## SAP OVERVIEW

This is an introductory course aimed at those interested in becoming familiar with Circular Design (specifically with Plastics), Circular Economy, and Circularity.

Participants will be introduced to the topic of Circular Design, starting from a variety of concepts, passing through several important approaches and methodologies, and finally covering some specific tools (in terms of their purpose and how they are employed, and not learning to use them in detail).

## LEARNING OUTCOMES

At the end of this RUN-EU SAP, you will be able to:

- Appreciate current driving features for sustainability in a multidisciplinary and international context;
- Understand the concepts of circular design, circular economy, circularity, and ecodesign (among others);
- Recognize the key challenges and opportunities for improving circularity in plastics, and how to quantify it;
- Understand the different perspectives of ecodesign/design for X;
- Understand circular supply chains and sustainable business modelling;

**+INFO:** [www.run-eu.eu](http://www.run-eu.eu)

Organised by: IPCA, NHL Stenden, TUS

**DATE** From **28 November to 16 December 2022**  
Face-to-Face Weeks: IPCA, Portugal 5-9 december

**MODE OF DELIVERY** Blended learning

**LANGUAGE OF INSTRUCTION** English

**ECTS CREDITS** 2

## ACADEMIC RECOGNITION

To be defined by each Home Institution.  
In general terms, most students will have this RUN-EU SAP certified in the Diploma Supplement, as a minimal condition.

## ELIGIBLE PARTICIPANTS

RUN-EU students from any study cycle, with a particular emphasis on students from engineering, design and management degrees

## HOW TO APPLY

Fill in the application form (**QR or website**)



## DEADLINE FOR APPLICATIONS

**31 October 2022**

## CONTACT DETAILS

SAPcirculardesign@ipca.pt



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28.NOV-16.DEC.2022

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## SELECTION CRITERIA

Order of submission, motivation, wide representation of fields of study and balanced participation of RUN-EU member institutions.

## LEARNING AND TEACHING STRATEGY

Immersive Learning  
Active Learning  
Peer Learning

## PREREQUISITES

English (B2)

## COURSES LEADERS | LECTURERS

### Courses leaders

Ricardo Simões (IPCA)  
Marcel Crul (NHL Stenden)  
Adam de Eyto (TUS)  
Declan Devine (TUS)

### Lecturers

Judith Ogink (NHL Stenden)  
Romina Pezzoli (TUS)  
Peter Joore (NHL Stenden)  
Dennis Vegter (NHL Stenden)

## PHYSICAL MOBILITY | SCHOLARSHIPS AVAILABLE

To be managed by the Home Institution  
Student scholarship:  
Travel: 350 EUR | Subsistence: 400/week

## MEANS AND CRITERIA FOR ASSESSMENT

Individual participation (attendance): 20%  
Group project: 80% (20% interim presentation + 60% final presentation). Active participation from all students of each group is mandatory in both group presentations.

A Learning Report must be elaborated at the end of this RUN-EU SAP.

## CERTIFICATION

The participants who successfully complete this RUN-EU SAP will receive a Certificate of Participation and a Transcript of Records jointly issued by the organising institutions.

Certificates will only be issued to students who attend at least 75% of the lectures and who actively participate in the final group presentation.



SHORT  
ADVANCED  
PROGRAMME

# CIRCULAR DESIGN WITH PLASTICS

28.NOV-16.DEC.2022

## PROGRAMME AT A GLANCE

+INFO: [www.run-eu.eu](http://www.run-eu.eu)

GMT+2	10h00	11h00	12h00	13h00	14h00	15h00	16h00	17h00	18h00	19h00	20h00
GMT+1	9h00	10h00	11h00	12h00	13h00	14h00	15h00	16h00	17h00	18h00	19h00
GMT	8h00	9h00	10h00	11h00	12h00	13h00	14h00	15h00	16h00	17h00	18h00
MON-SAT 28/11-3/12			PRE-READING ASSIGNMENTS (ON YOUR OWN SCHEDULE)								
MONDAY 5/12			WELCOME & OPENING SESSION	WHAT IS CIRCULAR DESIGN + ECODESIGN	SUSTAINABILITY/ GLOBAL ASPECTS	LUNCH BREAK	TEAM-BUILDING ACTIVITY	GROUP SETUP + PLANNING	CULTURAL SESSION	WALK AROUND IPCA	
TUESDAY 6/12			CHALLENGES + OPPORTUNITIES FOR PLASTICS CIRCULARITY	CIRCULAR ENTREPRENEURSHIP /REGIONAL+LOCAL CHAINS	DESIGN FOR X	LUNCH BREAK	GROUP WORK (WITH LOCAL MENTORS)				
WEDNESDAY 7/12			MATERIALS AND PROCESSING	CIRCULAR ECONOMY PRINCIPLES	ECONOMICS OF CIRCULAR DESIGN/ GREEN LOGISTICS	LUNCH BREAK	MULTILEVEL DESIGN PERSPECTIVE (1h30m) CIRCULARITY INDICATORS & ENVIRONMENTAL IMPACTS (1h30m)				
THURSDAY 8/12			GROUP WORK (UNSUPERVISED)			LUNCH BREAK	GROUP WORK (UNSUPERVISED)	VISIT TO LABS IN IPCA CAMPUS, INCLUDING DIFFERENT AREAS OF KNOWLEDGE			
FRIDAY 9/12			SUSTAINABLE BUSINESS MODELING (1h30m) OPEN ROUND TABLE DISCUSSION (1h30m)			LUNCH BREAK	GROUP WORK (WITH LOCAL MENTORS)	INTERIM PRESENTATIONS			
SAT-THU 10/12-15/12			INDEPENDENT GROUP WORK (ON YOUR OWN SCHEDULE)								
FRIDAY 16/12										FINAL GROUP PRESENTATIONS	



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# CIRCULAR DESIGN WITH PLASTICS

+INFO: [www.run-eu.eu](http://www.run-eu.eu)

28 NOV-3 DEC

MONDAY TO SATURDAY

GMT+2	10h00	11h00	12h00	13h00	14h00	15h00	16h00	17h00	18h00	19h00	20h00
GMT+1	9h00	10h00	11h00	12h00	13h00	14h00	15h00	16h00	17h00	18h00	19h00
GMT	8h00	9h00	10h00	11h00	12h00	13h00	14h00	15h00	16h00	17h00	18h00
MON-SAT 28/11-3/12			PRE-READING ASSIGNMENTS (ON YOUR OWN SCHEDULE)								

## Pre-reading Assignments

🕒 9h00-18h00

5 DECEMBER

MONDAY 9H00-18H00 - IPCA

GMT+2	10h00	11h00	12h00	13h00	14h00	15h00	16h00	17h00	18h00	19h00	20h00
GMT+1	9h00	10h00	11h00	12h00	13h00	14h00	15h00	16h00	17h00	18h00	19h00
GMT	8h00	9h00	10h00	11h00	12h00	13h00	14h00	15h00	16h00	17h00	18h00
MONDAY 5/12			WELCOME & OPENING SESSION	WHAT IS CIRCULAR DESIGN + ECODESIGN	SUSTAINABILITY/ GLOBAL ASPECTS	LUNCH BREAK	TEAM-BUILDING ACTIVITY	GROUP SETUP + PLANNING	CULTURAL SESSION	WALK AROUND IPCA	

## Welcome & Opening Session

🕒 9h00-10h00

## What is Circular Design + Ecodesign

🕒 10h00-11h00  
👤 Adam de Eyto (TUS)

📄 The module will cover the basic principles, limitations, key terms, opportunities and approaches and will give students a basic understanding of how to apply these through short case study and project work.

## Sustainability/ Global Aspects

🕒 11h00-12h00  
👤 Marcel Crul (NHL Stenden)

📄 We are living in a world where products are created to be replaced as frequently as possible instead of lasting long. The linear take-make-waste system that humanity has been living in for a long time is evolving at an even more critical state with fast consumption.



## CIRCULAR DESIGN WITH PLASTICS

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6 DECEMBER

TUESDAY 9H00-16H00 · IPCA

GMT+2	10h00	11h00	12h00	13h00	14h00	15h00	16h00	17h00	18h00	19h00	20h00
GMT+1	9h00	10h00	11h00	12h00	13h00	14h00	15h00	16h00	17h00	18h00	19h00
GMT	8h00	9h00	10h00	11h00	12h00	13h00	14h00	15h00	16h00	17h00	18h00
TUESDAY 6/12			CHALLENGES + OPPORTUNITIES FOR PLASTICS CIRCULARITY	CIRCULAR ENTREPRENEURSHIP /REGIONAL+LOCAL CHAINS	DESIGN FOR X	LUNCH BREAK	GROUP WORK (WITH LOCAL MENTORS)				

### Challenges and Opportunities for Plastics Circularity

🕒 9h00-10h00  
👤 Declan Devine (TUS)

📄 Recent years have seen heightened interest in the potential of circular technologies to break, or at least mitigate, the adverse effects of the make-use-dispose model. Yet few government initiatives, business models or collective efforts to date have been adequately extended or reached their full intended scale and impact.

### Circular Entrepreneurship/ Regional and Local Chains

🕒 10h00-11h00

### Group Work

🕒 13h00-16h00

### Design for X

🕒 11h00-12h00  
👤 Ricardo Simões (IPCA)

📄 Overview of this main concept as well and some relevant Xs that relate it to Design for the Circular Economy such as Df Maintenance; Df Reuse/redistribute; Df Refurbish; Df Service; Df Disposability, that will be addressed through examples that demonstrate the potential of these strategies and their impact notably on EOL approaches



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7 DECEMBER

WEDNESDAY 9H00-16H00 - IPCA

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GMT+1	9h00	10h00	11h00	12h00	13h00	14h00	15h00	16h00	17h00	18h00	19h00
GMT	8h00	9h00	10h00	11h00	12h00	13h00	14h00	15h00	16h00	17h00	18h00
WEDNESDAY 7/12			MATERIALS AND PROCESSING	CIRCULAR ECONOMY PRINCIPLES	ECONOMICS OF CIRCULAR DESIGN/ GREEN LOGISTICS	LUNCH BREAK	MULTILEVEL DESIGN PERSPECTIVE (1h30m)	CIRCULARITY INDICATORS & ENVIRONMENTAL IMPACT (1h30m)			

### Materials and processing

🕒 9h00-10h00  
👤 Romina Pezzoli (TUS)

📄 From medical devices to packaging, polymeric materials are an essential part of modern life thanks to their remarkable versatility. The choice of polymers available in the market is wide, ranging from thermoplastics to thermosets, rigid to flexible, commodities to engineering, polyolefin-based to biobased, the design possibilities are endless.

### Multilevel Design Perspective

🕒 13h00-14h30  
👤 Peter Joore (NHL Stenden)

📄 This module introduces a specific way of conceptualising the complete system, in the form of the Multilevel Design Model (MDM).

### Circular Economy Principles

🕒 10h00-11h00  
👤 Adam de Eyto (TUS)

📄 Awareness about the basic principles connected to the development of Circular Economies; Product and Materials Lifecycles, Value Chain, User Behaviours, CE Business models, Policy, Legislative drivers and Barriers for implementation.

### Circularity Indicators & Environmental Impact

🕒 14h30-16h00  
👤 Ricardo Simões (IPCA)

📄 In order to improve the circularity of products and systems, it is important to have methods to assess the relevant parameters.

### Economics of Circular Design/Green Logistics

🕒 11h00-12h00  
👤 Dennis Vegter (NHL-Stenden)

📄 We will discuss the processes and performance objectives of the circular supply chain. In particular, we focus on how product design decisions affects the configuration of a circular supply chain. In turn, this configuration determines the performance of the circular supply chain. After this session you will be able to understand the implications of design decisions on the performance of the circular supply chain.



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8 DECEMBER

THURSDAY 9H00-18H00 - IPCA

GMT+2	10h00	11h00	12h00	13h00	14h00	15h00	16h00	17h00	18h00	19h00	20h00
GMT+1	9h00	10h00	11h00	12h00	13h00	14h00	15h00	16h00	17h00	18h00	19h00
GMT	8h00	9h00	10h00	11h00	12h00	13h00	14h00	15h00	16h00	17h00	18h00
THURSDAY 8/12			GROUP WORK (UNSUPERVISED)		LUNCH BREAK	GROUP WORK (UNSUPERVISED)		VISIT TO LABS IN IPCA CAMPUS, INCLUDING DIFFERENT AREAS OF KNOWLEDGE			

## Group Work

🕒 9h00-12h00

## Group Work

🕒 13h00-16h00

## Visit to Labs in IPCA Campus

🕒 16h00-18h00

9 DECEMBER

FRIDAY 9H00-16H00 - IPCA

GMT+2	10h00	11h00	12h00	13h00	14h00	15h00	16h00	17h00	18h00	19h00	20h00
GMT+1	9h00	10h00	11h00	12h00	13h00	14h00	15h00	16h00	17h00	18h00	19h00
GMT	8h00	9h00	10h00	11h00	12h00	13h00	14h00	15h00	16h00	17h00	18h00
FRIDAY 9/12			SUSTAINABLE BUSINESS MODELING (1h30m)		OPEN ROUND TABLE DISCUSSION (1h30m)		LUNCH BREAK	GROUP WORK (WITH LOCAL MENTORS)	INTERIM PRESENTATIONS		

## Sustainable Business Modelling

🕒 9h00-10h30

👤 Judith Ogink (NHL Stenden)

## Open Round Table Discussion

🕒 10h30-12h00

## Group Work

🕒 13h00-15h00

## Interim Presentations

🕒 15h00-16h00

📄 Business modelling is a way to describe the rationale of how a company or organization creates, delivers and captures value. 'Value' can be defined in economic, social, cultural or another context.

SHORT  
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**RUN** REGIONAL  
UNIVERSITY  
NETWORK  
EUROPEAN UNIVERSITY

# CIRCULAR DESIGN WITH PLASTICS

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10-15 DEC

SATURDAY TO THURSDAY

GMT+2	10h00	11h00	12h00	13h00	14h00	15h00	16h00	17h00	18h00	19h00	20h00
GMT+1	9h00	10h00	11h00	12h00	13h00	14h00	15h00	16h00	17h00	18h00	19h00
GMT	8h00	9h00	10h00	11h00	12h00	13h00	14h00	15h00	16h00	17h00	18h00
SAT-THU 10/12-15/12			INDEPENDENT GROUP WORK (ON YOUR OWN SCHEDULE)								

## Independent Group Work

🕒 9h00-18h00

16 DECEMBER

FRIDAY 15H00-18H00 - ONLINE

GMT+2	10h00	11h00	12h00	13h00	14h00	15h00	16h00	17h00	18h00	19h00	20h00
GMT+1	9h00	10h00	11h00	12h00	13h00	14h00	15h00	16h00	17h00	18h00	19h00
GMT	8h00	9h00	10h00	11h00	12h00	13h00	14h00	15h00	16h00	17h00	18h00
FRIDAY 16/12										FINAL GROUP PRESENTATIONS	

## Final Group Presentations

🕒 15h00-18h00