

Do you want to have an international experience?

**A Blended Intensive Programme (BIP) is for you!**

### What are BIPs?

- ❑ BIPs are short and intensive training programmes;
- ❑ They include on-line and a short-term physical mobility.

Can I have this training credited?

Yes!

How can I get funding for mobility?

Please contact your International Relation Office to get information on Erasmus BIP grants.

## BIP on Circular Bioeconomy

### Partners:

Polytechnic Institute of Bragança (IPB) (Portugal)  
Hanze University of Applied Sciences (Netherlands)  
Hochschule Bremen, City University of Applied Sciences (Germany)  
Cracow University of Technology (Poland)

### BIP scheduling:

Starting 27/04/2023, Ending: 29/06/2022

### Short-term physical mobility (1 week):

Starting 05/06/2023, Ending: 09/06/2023

This BIP corresponds to  
**6.0 ECTS credits**

**Do you have doubts about the BIP on Circular Bioeconomy?**

If YES, contact: Elsa Ramalhosa ([elsa@ipb.pt](mailto:elsa@ipb.pt))

**To apply:** <https://surveys.ipb.pt/index.php/529244?newtest=Y&lang=en>



## **Part A. Technical sessions (27/04/2023 – 01/06/2023) – 3 ECTS**

The students must attend **four compulsory circular bioeconomy topics** (4h/each) and **more four elective topics** (2h/each) ministered by specialists of the 4 involved institutions (see contents table).

## **Part B. Physical Mobility at IPB in Portugal (05/06/2023 - 09/06/2023) – 1.5 ECTS**

The students will work in their projects on circular bioeconomy. The work will be developed in interdisciplinary groups and in a co-creation environment. The work will be monitored by a facilitator.  
For information on how to travel to Bragança (Portugal) and arrange accommodation, contact the IPB International Relations Office (GRI) via email ([sylwia@ipb.pt](mailto:sylwia@ipb.pt)).

## **Part C. Project (15/06/2023 – 22/06/2022) – 1.5 ECTS**

Continue to develop the project addressing one of the United Nations Sustainable Development Goals (SDGs). The work will be developed on-line in interdisciplinary groups and monitored by a facilitator (2 h/week; 15/06/2023; 22/06/2023).

### **Assessment of the BIP:**

90% Attendance at Seminars + Final Pitch presented at the end of the Physical Mobility Period (Pass/Fail) + Final Project (written report and presented orally to a jury of specialists on 29<sup>th</sup> June 2023)

# Technical sessions contents (Part A.)

## COMPULSORY

2023

ORDER	TOPIC	CONTENTS	Date and Hour (CET)
0º	<b>Introduction to the BIP</b>	Welcome Session Get to know each other	27/04 14:00-18:00
1º	<b>Circular Economics</b> <b>COMPULSORY</b>	What does the circular economy (including the biobased economy) entail, why is it necessary and why do companies/organizations go green, and how can companies/organizations embark on the journey towards a circular economy?	02/05 14:00-18:00
2º	<b>Degrowth Economics</b> <b>COMPULSORY</b>	The current economic system is not sustainable. We need to reduce energy consumption and energy use by 40-90 percent to make sure to stay within planetary boundaries. What trends and developments do we see, what business models need to be developed and what could the role of the biobased economy be?	04/05 14:00-18:00
3º	<b>Sustainable Innovation Practises</b> <b>COMPULSORY</b>	(Topics to be defined soon)	09/05 14:00-18:00
4º	<b>Bioeconomy</b> <b>COMPULSORY</b>	Introduction to bio-based economy, photosynthesis as the basis of primary biomass production on earth, types of biomass and their availability and processing, biomass for human nutrition, feed, bioenergy, biofuels, bioplastics, biorefineries	11/05 14:00-18:00

## Technical sessions contents (Part A.) (cont.).

**ELECTIVE – The students will choose the other themes, in a total of at least four topics. If students want to attend more topics, this point will be valued in the final mark.**

ORDER	SEMINARS/TOPICS DESIGNATION	CONTENTS	Date
5º	<b>Biotechnology in Bioeconomy</b>	Microorganisms and enzymes are the main biocatalysts used in biotechnological production systems. Biotechnological processes are performed in different types of bioreactors. Various biotechnological production processes relevant for bioeconomy are presented as examples: citric acid, yeast, chlorella biomass as food additive, blue colorants from spirulina for food and cosmetic application.	16/05 14:00-16:00
6º	<b>Sustainable Finance</b>	(Topics to be defined soon)	16/05 16:00-18:00
7º	<b>Life Cycle Analysis</b>	Brief course on Life Cycle Assessment (ISO 14040 and 14044). The course starts with a short theoretical presentation on the Life cycle approach, followed by an introduction to the LCA process and its methodological framework.	23/05 14:00-16:00
8º	<b>EU Initiatives and Directives in Circular Bioeconomy</b>	(Topics to be defined soon)	23/05 16:00-18:00

## Technical sessions contents (Part A.) (cont.).

2023

**ELECTIVE – The students will choose the other themes, in a total of at least four topics. If students want to attend more topics, this point will be valued in the final mark.**

ORDER	SEMINARS/TOPICS DESIGNATION	CONTENTS	Date
9º	Bioenergy	(Topics to be defined soon)	25/05 14:00-16:00
10º	Quality, Innovation and Data Analytics in Food Businesses	Food industries, either large or SMEs, should have in place processes, products, and manufacturing activities that adequately address current environmental concerns while maintaining a profit. Sustainable development within a food business can create value for customers and clients, and can strengthen local economies. This seminar focuses in depth on three pillars for sustainability: innovation in food processes and products, quality and safety of food products, and data analytics.	25/05 16:00-18:00
11º	Material Use of Renewable Resources	(Topics to be defined soon)	30/05 14:00-16:00
12º	Sustainable Chemistry and Strategies on Encapsulation	(Topics to be defined soon)	30/05 16:00-18:00

\*Elective: the students can take 6A or 6B.

## Technical sessions contents (Part A.) (cont.).

**ELECTIVE – The students will choose the other themes, in a total of at least four topics. If students want to attend more topics, this point will be valued in the final mark.**

ORDER	SEMINARS/TOPICS DESIGNATION	CONTENTS	Date
13º	Biomass in the synthesis of porous polymer materials	(Topics to be defined soon)	01/06 14:00-16:00
14º	Valorization of food waste and importance of autochthonous products	Food waste versus Food loss. Food waste statistics. How can we reduce food waste?. Autochthonous products: definition and importance. Quality schemes - Geographical indications, Traditional speciality guaranteed, Other schemes. eAmbrosia - the EU geographical indications register. Examples of autochthonous products.	01/06 16:00-18:00