Universidade de Évora

Open call rules

Applications for Admission: Curso de formação em Biorrefinarias - Da biomassa a compostos de valor acrescentado (Biorefineries - From biomass to value-added compounds)
Academic Year 2024/2025

1. The program is promoted by

Universidade de Évora - Escola de Ciências e Tecnologia

2. Coordenador(a)

José Eduardo dos Santos Félix Castanheiro (jefc@uevora.pt)

3. Program description

Due to the environmental problems resulting from the use of non-renewable raw materials such as, natural gas, coal and oil, it has become imperative to replace them with renewable raw materials.
The use of biomass allows not only the production of fuels (biofuels) but also the production of chemical compounds and materials of natural origin, which can replace in terms of functionality a variety of products obtained from non-renewable raw materials. Biomass is a source of renewable raw material available in large quantities, originating from organic matter such as vegetation, forestry, agricultural and farm waste, wood waste, vegetable oil and the biodegradable fraction of municipal solid waste. However, biomass requires prior treatment before it can be used. This renewable raw material needs to be transformed into compounds that can be used to produce the desired products. Biorefineries arise in this context: transforming biomass into chemical compounds, materials and fuels (energy).
This course allows you to explore the different processes for valorising and transforming biomass in a biorefinery into materials (biomaterials), chemical compounds and energy (biofuels).

4. Objectives

The main objective of the course "Biorefineries - From biomass to value-added compounds" is to understand the different processes for transforming biomass into materials, chemical compounds and biofuels. As such, this course is organised into four main themes (Introduction to Biorefineries; From biomass to materials; From biomass to chemicals and From biomass to fuels and energy). The main

objectives of the first part of the course (I. Introduction to Biorefineries) are to understand the concept and identify the different types of biorefinery. The objectives of the second topic (II. From biomass to materials) are to understand the physical and chemical properties of lignocellulosic materials, to recognise the main natural polymers and the various types of composite materials, as well as to learn about the different ways of recovering and transforming natural polymers. The objectives of the third topic (III. From biomass to chemical products) are to understand, recognise and describe the main constituents of plant biomass, the main conversion stages and the main products obtained in a biorefinery. The objectives of the fourth theme (IV. From biomass to fuels and energy) are to understand, recognise and describe a series of processes that allow biomass to be valorised through its conversion into energy and fuels.

5. General conditions of access and admission

i **General conditions**

Be over 18 years old and resident permit. If you do not have Portuguese nationality, you must have a residence permit and tax payer number .

ii **Specific admission conditions**

Bachelor's degree or university course in Chemistry, Biotechnology, Biochemistry, Chemical Engineering, Renewable Energy Engineering, Agronomy, Ecology and Environment and related areas.
Technical course in Chemical Analysis;
Technical course in Industrial Chemistry/ Chemical Process Technology

iii **Required academic qualifications** Secondary education (12th year of complete education) or equivalent

iv **Necessary documentation**

a) identification document;
b) document(s) proving the qualifications required in the Announcement for access to the course;
c) Curriculum Vitae;
d) document proving the IBAN of the bank account held by the candidate, in which the name of the holder is mentioned;
e) proof of residence permit, in the case of foreign students;
f) document with tax identification number, in the case of foreign students;
g) if applicable, proof of unemployment;

6. Selection Process

Date of application submission.

7. Maximum number of admissions

- Maximum number of admissions: 20

The course is taught in Portuguese.

8. Minimum number of students

Minimum number of students: 15

9. Tuition fee

- Tuition fee: 150,00 €

This course is covered by the PRR's Adult Impulse. Students can receive two prizes: the participation prize, equal in value to the course fee, and the completion prize (according to Regulation), to be paid into a bank account held by the student.

10. ECTS

- Number of ECTS of the program: 3

11. Learning Type

Presential

12. Schedule type

Labor

13. Classes location

Universidade de Évora, Escola de Ciências e Tecnologia, Departamento de Química e Bioquímica, Colégio Luís António Verney, nº 59, Évora

14. Classes schedule (week days and schedule)

Fridays in the afternoon.

15. Program Dates

- Program Start Date: May 23, 2025
- Program End Date: July 4, 2025

16. Application Dates

- Applications Start Date: April 17, 2025
- Applications End Date: May 6, 2025
- Announcement of Results (until): May 12, 2025
- Enrollments Start Date: May 12, 2025
- Enrollments End Date: May 14, 2025

April 17, 2025

The Rector

Hermínia Vasconcelos Vilar