ACE2 EUROPEAN UNIVERSITY
Applied
Connected
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Call for Participation

1. Template for website

Course title: Functional food (functional fermented beverages and edible oils): when science meets bioeconomy and creates health lifestyle

Date/Period: 5-30 October 2026

Daily Schedule: (Brussels time) (Online – synchronous/asynchronous or Onsite)
Organized by: ABC course organized by Goce Delcev University, Instituto Politécnico de Santarem and Franciso de Vitoria University

Deadline for registration: June 2026 (date and time)

A certificate of attendance will be provided.

1. Objectives of the Call

The main objective of this course is to **identify and assess the beneficial effects of functional fermented beverages and edible oil compounds**, exploring their nutritional and therapeutic potential from a multidisciplinary and applied perspective.

2. Course Short Description

The program focuses on a detailed analysis of the phytochemical composition of wines and edible oils. Special emphasis will be put on **functional fermented beverages** from raspberries and blackberries, Portuguese and Spanish wines as well as sunflower, flaxseed oils from germinated and not germinated seeds as well as Portuguese and Spanish olive oils. After explaning of students how controlled fermentation of wines and vinification are performing as well as cold-pressing of seeds from sunflower and flax, the identification and quantification of bioactive compounds such as polyphenols, flavonoids, tannins, and resveratrol in wines and phytosterols, Vitamin-E-active compounds, fatty acids and

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physicochemical parameters (acid and peroxide value, iodine and saponification number, density and index of refraction as well as Ranicmat stress test) will be made. in cold-pressed edible oils. It provides a critical evaluation of scientific evidence regarding their antioxidant and biological activity as well as stability and shelf life.

Participants will **visit a winery** and **practical laboratory sessions**, where students will learn to identify and analyze bioactive compounds using current analytical techniques in UNILAB at the Faculty of Agriculture.

This is a **comprehensive and transdisciplinary training program**, combining theoretical foundations with practical experience, group work, and exposure to real-world innovation environments. It is especially designed for students in agriculture, biotechnology, nutrition, and food science who are interested in the development of new functional food solutions with positive impact in human health..

3. Target Group

Undergraduate and postgraduate students of Agriculture, Biotechnology, Nutrition and Food Science

4. Learning Objectives

- To provide students with solid knowledge of **wine markets, supply chains, international laws and cultural considerations relevant to the wine industry**.
- To provide students with knowledge of the vinification and wine-making, control fermentation and production of **functional wines** with **low level of alcohol** and **high amounts of bioactive compounds**.
- To provide students with solid knowledge of the **process of cold-pressing**, **germination of oil seeds** and **production of functional edible oils** with high amounts of bioactive compounds
- **phytochemical composition** of raspberry, blackberry and grape pomace, with emphasis on the **identification, quantification and characterization** of their main bioactive compounds (anthocyanins, proanthocyanins, flavonoids, tannins, resveratrol).
- **phytochemical composition** of raspberry and blackberry cake after cold-pressing (pomace), with emphasis on the identification, quantification and

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characterization of their main bioactive compounds (free fatty acids, fatty acids, vitamin-E-active compounds, carotenoids and phytosterols).

5. Structure & Methodology

The course is structured into two complementary components: a 30-hour online module and a 30-hour in-person module. The in-person sessions will be held at Goce Delcev University and Macedonian wineries, providing a direct connection between academic learning and real industry practices.

The **online component** will include both **synchronous and asynchronous activities**. The main focus of our students will befunctional fermented beverages, vinification, wine-making and fermentation with specially selected wine yeasts, the chemical composition of wines and grape pomace. Learning tools will include selected literature, curated readings, recorded lectures and videos, knowledge quizzes, and participation in **online debates** to promote critical analysis and exchange.

The **in-person component** will offer an immersive experience through:

- Involve students in courses and **practical laboratory work** in the area of food quality and food control with special emphasis on wine chemistry and wine control
- How to use **wine chemistry** for better understanding health impact of wine consumption and new enological principals for future functional wine.
- Participants will work in **well-equipped laboratory** for food and wine quality
- Visibility by organization of **workshops and scientific meetings**,
- Joint research in the **food science and publishing results in international journals**

The teaching methodology will be based on:

- **Dialogic expository approach**, encouraging participation and reflection.
- **Collaborative and project-based learning**, fostering teamwork and practical problem-solving.
- **Transdisciplinary perspective**, integrating knowledge from multiple disciplines.

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- **Hands-on laboratory practice**, essential for technical skill development and understanding of bioactive compound analysis.

This blended structure ensures that students acquire both theoretical knowledge and practical skills, preparing them to apply what they've learned in academic, industrial, and research settings.

6. Registration and Participation

[the form will be generated by WP2]

The deadline to register is **.....**

Participants must attend the full session and contribute to collaborative tasks.

7. Certification

Upon successful participation in the course, students will receive a **Certificate of Attendance** issued by the organizing institutions. The certificate will include the title of the course, the learning outcomes, the competences developed, and the academic recognition.

Course Title: Functional food (wines and edible oils): when science meets bioeconomy and creates health lifestyle

Learning Outcomes:

- Chemical composition of functional fermented beverages, with special emphasis on polyphenols, flavonoids, tannins, and resveratrol.
- Physicochemical composition of edible oils and cake (pomace) from cold-pressing, with special emphasis on fatty acids, phytosterols and Vitamin-E-active compounds.
- Antioxidant potential of wines and edible oils determined by different antioxidant assays.

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- Design for fictional food in terms of enriching the wines and edible oils with natural bioactive compounds to increase shelf life and antioxidant potential of food.

Developed Competences:

- Collaboration between universities and private sector (wineries and oil factories) for better understanding the importance of functional food in human nutrition.
- Functional food impact on human health
- New trends in food science and new formulation for functional food
- Economic and environmental benefits of wine and oil waste valorization
- Joint research in the area of oil and wine chemistry, publishing of results in international journals with impact factors
- Connections between participants, universities, institutes, stakeholders and local economies (e.g. local wineries and cold-pressed edible oil factories)

Duration: 60 hours (combining synchronous (30 hours) online and onsite components (30 hours)

Academic Recognition: 3 ECTS credits

8. Contact & Coordination

For any questions or support related to the course, please contact:

Goce Delcev University, Faculty of Agriculture
Sanja Kostadinovik Velisckovska (sanja.kostadinovik@ugd.edu.mk)
Goce Delcev University, Faculty of Economics

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Emilija Mitreva Kacarski (emilija.miteva@ugd.edu.mk)

Francisco de Vitoria University:

Provide names and emails

UFV

Estela Pérez Lago (e.perezlago.prof@ufv.es)

Instituto Politécnico de Santarem

Helena Maria C. Sousa Mira (helena.mira@esa.ipsantarem.pt)

Ana Teresa Ribeiro (ana.ribeiro@esa.ipsantarem.pt)

2. Template for the social media

🎓 📣 Call for Participation – Course Title: **Functional food (wines and edible oils): when science meets bioeconomy and creates health lifestyle**

📅 Date/Period: October 2026

🕒 Time/ **Daily Schedule**:

📅 Duration and Timeline:

· Course components and contact hours: 20 hrs. synchronous online, 25 hrs. onsite + 45 hrs. independent and group work

· Online component: 5,7,9 October 2026, 10:12 CEST ; 12-13 October 2026, 10:12 CEST, 26-27 October 2026, 10:12 CEST.

· On-site component: 19-23 October 2026 (Goce Delcev University (UGD)– North Macedonia).

💻 Location: Online (synchronous)/ Onsite

📍 Organized by: University Goce Delcev, Republic of North Macedonia

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📜 Certificate of attendance included

🔍 What you'll gain:

✅ **Understanding the quality and bioactive potential of cold-pressed edible oils from germinated and not germinated oilseeds** and olive oil

✅ **Critically analyze scientific literature to identify and evaluate the beneficial properties of bioactive compounds**

✅ **Apply the acquired knowledge to design innovative strategies for the use of grape pomace bioactive compounds**

✅ **Improvement of scientific ideas, research and understanding the importance of functional food in human health**

🧒🏫 Who should attend:

→ **undergraduate and postgraduate students.**

→ **Agriculture, Biotechnology, Nutrition, Food Science**

→ ……..

👉 Register by ……(date and time): ……..(link for registration form)

📢 For inquiries(provide emails from teachers):

✉ sanja.kostadinovik@ugd.edu.mk

✉ emilija.miteva@ugd.edu.mk

Also please provide for the business card that will be put it on the website and social media:

Pictures with the teachers and stakeholders and 1 short presentation about their professional background.

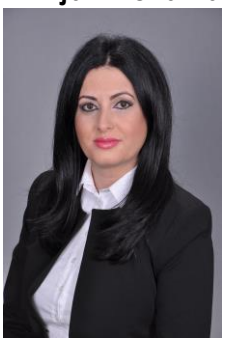
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Sanja Kostadinovic Velickovska



Full Professor 2023 in the Faculty of Agriculture, Goce Delcev University, Stip, Republic of North Macedonia. PhD in Food Chemistry at Institut für Lebensmittelchemie (Institute for Food Chemistry), Faculty of Life Sciences, Technical University of Braunschweig (TUBS), Germany as Deutscher Akademischer Austausch Dienst (DAAD) scholarship holder. Expertise areas: food chemistry, wine chemistry, edible oil chemistry, polyphenols and natural antioxidants. ORCID ID 0000-0003-2402-3306.

Emilija Miteva Kacarski



Full professor at the Faculty of Economics, Goce Delcev University, Stip, North Macedonia. PhD in International Economics, Doctoral dissertation “The influence of non-tariff protectionism on global trade flows” Ss. Cyril and Methodius University in Skopje, the Institute of Economics. Expertise areas: international trade, globalization, customs policy, non-tariff protectionism, international organizations and integrations. https://eprints.ugd.edu.mk/view/creators/Miteva-Kacarski=3AEmilija=3A=3A.html ORCID ID 0000-0002-8373-7942

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Photo Estela Pérez Lago

Estela holds a degree in Marine Sciences and a Ph.D. in Science. She has over 15 years of experience in undergraduate teaching and currently works as a professor in the Biotechnology, Biomedicine, and Pharmacy programs at Universidad Francisco de Vitoria (UFV). In addition to her teaching role, she has an extensive research background in the field of microbiology. Her research has focused on bacterial pathogenesis, antibiotic resistance, and microbiota studies. She is currently a member of the Microbial Biotechnology Research Group at UFV.

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