



Continuing Education  
Master's Degree in  
**Alternative  
Protein Sustainable  
Value Chains**

The first graduate program in alternative proteins offered in the World

# Overview

## Play a key role in a highly disruptive emerging industry that requires technology-based companies and continuous improvement

The demand of high quality protein products alternative to animal-based products is increasing globally driven by environmental, health and ethical concerns. Advances in biotechnology and food technology are allowing to develop products with organoleptic and nutritional properties very similar to the ones of meat, fish, milk or eggs. These technological advances are also enabling the nutritional and health properties of alternative protein products to be improved. This has led to an increasing number of startups and companies developing innovative products and processes in the alternative protein sector. While in the emerging plant-based protein and fermented alternative protein industries there are many products in the introduction or growth phase, in the cultured meat or fish products industry no products have yet been launched.

This is a highly disruptive emerging industry that requires technology-based companies capable of excellent management of their new product development processes, but also need to continuously improve the sustainability of their operations and value chains.

This new industry needs professionals that understand the complex ecosystem where the alternative protein companies move. In addition to having knowledge of the technologies and processes involved in the production of the different types of alternative proteins, they need to know the strategies to improve their nutritional and health properties. They must also be experts in the development and management of new products and in the continuous improvement of sustainability. The certification of management systems for quality, food safety, environmental impact, energy footprint and R&D is key to building trust and confidence among value chain operators, customers and other stakeholders.

This Continuous Education Master is the first graduate program in alternative proteins offered in the World. If you are passionate about the world of alternative proteins and you want to contribute to the transition to more sustainable and healthier diets, run to register for the Continuous Education Master in Alternative Protein Sustainable Value Chains.

## Relevant Information

▶ **Responsible Coordinating Faculty:**  
Pharmacy

▶ **Delivery:**  
Face-to-face

▶ **ECTS Credits:**  
120

▶ **Duration:**  
2 academic years

▶ **Start Date:**  
September 2025

▶ **Location:**  
Real Centro Universitario Escorial-Mª Cristina  
San Lorenzo de El Escorial ,Madrid, Spain

▶ **Places available:**  
30 places maximum with a minimum number of 20 students

▶ **Language:**  
English

▶ **Timetable:**  
Monday to Friday from 16:00 to 20:00 hours.

## Why study this master's degree

### Growing Labor Market Demand

- ▶ The alternative protein sector is booming due to the increasing demand for more sustainable and healthier foods.
- ▶ Biotechnology, food, and agriculture companies are seeking professionals with expertise in this field, translating into excellent job opportunities.
- ▶ Graduates of this master's program will be prepared to take on leadership roles in areas such as research and development, production, marketing, and supply chain management.
- ▶ You will be able to participate in the development of innovative solutions to responsibly feed a growing global population.

### Development of Specialized Skills and Knowledge

- ▶ The master's program will provide you with a deep understanding of the science and technology behind alternative protein production, including fermentation techniques, cell culture, and plant-based food processing.
- ▶ You will learn about the economic, social, and environmental aspects related to the alternative protein value chain, from production to consumption (from Farm to Fork)
- ▶ You will develop management, leadership, and communication skills that will enable you to work effectively in multidisciplinary teams and lead innovative projects.

### Opportunity to create change, expertise and knowledge

- ▶ The alternative protein sector has the potential to transform the food industry and improve human health and the environment.
- ▶ By studying this master's program, you can be part of this transformation and generate a positive impact on society.
- ▶ You will be able to contribute to the development of innovative products, the creation of new businesses, and the promotion of sustainable practices in the food industry.

**In summary, studying the Continuous Education Master in Alternative Protein Sustainable Value Chains offers you the opportunity to develop a successful professional career in a growing sector while contributing to the construction of a more sustainable and just food future.**

# Learning outcomes

## Technical and Scientific Knowledge:

- ▶ **Food Science and Technology:** You will understand the composition, properties, and processing of various alternative protein sources (plant-based, mycoproteins, cell cultures, etc.). You will learn about protein extraction, modification, and texturization techniques, as well as the development of novel food.
- ▶ **Biotechnology:** You will acquire knowledge about biotechnological techniques applied to the production of alternative proteins, such as fermentation, cell culture, and genetic engineering.
- ▶ **Sustainability:** You will learn about the principles of sustainability and their application to food production. You will understand the environmental, social, and economic impacts of different protein sources and value chains. You will learn to assess the sustainability of food systems and develop strategies to reduce these impacts.
- ▶ **Life Cycle Assessment (LCA):** You will master the LCA methodology to evaluate the environmental impact of products and processes, which is crucial for optimizing sustainable value chains.
- ▶ **Regulation and Food Safety:** You will become familiar with current food safety and labeling regulations, both nationally and internationally, concerning novel food and alternative proteins.

## Transversal Skills:

- ▶ **Communication:** You will develop your oral and written communication skills to clearly and effectively convey your ideas and knowledge to different audiences.
- ▶ **Teamwork:** You will learn to work in teams with professionals from different disciplines to achieve common goals.
- ▶ **Leadership:** You will develop your leadership skills to lead teams and projects in the alternative protein sector.
- ▶ **Critical Thinking:** You will foster your critical thinking ability to analyze information, evaluate different options, and make informed decisions.
- ▶ **Problem Solving:** You will develop your problem-solving skills to address the challenges that arise in the alternative protein sector.

In summary, the Continuous Education Master in Alternative Protein Sustainable Value Chains will equip you with a comprehensive set of skills that will enable you to succeed in a dynamic and constantly evolving sector. You will be prepared to lead projects, develop new products, and contribute to transforming the food system towards more sustainable and resilient models.

# Study Plan

MODULE	MODULE CONTENT	ECTS Credits
1	Plant-based Products Supply Chains	12
2	Cell-based Products Supply Chains	10
3	Precision Fermentation Products, Biomass Fermentation Products, Plant Molecular Farming, Algae and Microalgae	10
4	Improving Nutritional and Healthy Properties and Sustainability Attributes in the Alternative Protein Supply Chains	10
5	Business Management of Alternative Protein Startups	10
6	Business Development and Design Thinking for the Alternative Protein Industries	3
7	Development and Management of New Products (NPDP International Certification)	10
8	Lean & Green Business Systems and Supply Chains in the Alternative Protein Industries	10
9	Certification of Management Systems, Products, Process and Services Certification	10
10	Tools and Technologies for Continuous Improvement of Alternative Protein Production Process	10
	Master's Thesis	25
<b>Total ECTS</b>		<b>120</b>

# Student profile

- ▶ Graduates in Food Science and Technology, Nutrition and Dietetics, Biotechnology, Biology, Pharmacy, Veterinary Medicine, Food Engineering, Agricultural Engineering, Agricultural Sciences and Bioeconomics, Agri-environmental Engineering, Industrial Design Engineering and Chemical Engineering, as well as equivalent degrees in Europe, Latin America and the United States.
- ▶ It is also of interest to graduates in Business Administration and Business Management Engineering interested in entrepreneurship in the alternative protein sector and to Computer Engineers interested in the applications of Artificial Intelligence and Industry 5.0 solutions to the sector.

# Career opportunities

This Master's program opens up a range of career opportunities in a booming sector with great growth potential. You will be able to contribute to the transformation of the food system towards more sustainable, healthy, and resilient models, and develop an exciting career with social impact. The knowledge and skills acquired will enable you to access positions of responsibility in various areas, both in the private and public sectors.

## Food Sector Companies:

- ▶ **Alternative Protein Production Companies:** You will be able to work in companies dedicated to the production of plant-based proteins, mycoproteins, cultivated meat, or other alternative sources.
- ▶ **Ingredient Companies:** You can develop your career in companies that supply ingredients and technological solutions for the alternative protein industry.
- ▶ **Food Processing Companies:** You will be able to work in companies that transform alternative proteins into innovative food products.
- ▶ **Distribution and Marketing Companies:** You can access positions in companies that handle the distribution and marketing of alternative protein products.
- ▶ **Large Food Companies:** You will be able to work in R&D, sustainability, or marketing departments of large food companies that are investing in alternative proteins.

## Research and Development Centers:

- ▶ **Universities and Research Centers:** You can dedicate yourself to the research and development of new technologies and products in the field of alternative proteins.
- ▶ **Technology Centers:** You will be able to work in technology centers that offer research and advisory services to companies in the alternative protein sector.

## Non-Governmental Organizations and Public Sector:

- ▶ **Non-Governmental Organizations (NGOs):** You can work in NGOs that promote sustainability and food security, and that drive the development of fairer and more resilient food systems.
- ▶ **Public Administration:** You can access positions in public administration related to the regulation and promotion of the production and consumption of alternative proteins.

## Consulting and Entrepreneurship:

- ▶ **Consulting Firms:** You can work in consulting firms that advise food sector companies on sustainability, innovation, and business development.
- ▶ **Entrepreneurship:** You can create your own company in the alternative protein sector, developing innovative products or services.

## Other Career Opportunities:

- ▶ **Scientific Communication and Outreach:** You can work in media or organizations dedicated to scientific communication in the field of food and sustainability.
- ▶ **Education:** You can teach classes or workshops in educational institutions on alternative –proteins, sustainability, and food systems.





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and empowering generations of students to  
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