



# STUDY IN ENGLISH

## AT BORDEAUX SCIENCES AGRO

DISCOVER OUR NEW AUTUMN SEMESTER  
FROM SEPTEMBER THROUGH TO JANUARY:

- › Agriculture and Global Changes
- › (R)Evolution in Ruminant Reproduction Management
- › Plants with Human Health Benefits
- › Worldwide Agriculture
- › Water Resource Management
- › Food Microbiology and Food Safety
- › Food Supplements: Safety, Efficiency, and Innovation
- › Independent Science and Policy Research

“ A VAST TRACK IN  
AGRONOMY, ENTIRELY  
TAUGHT IN ENGLISH ”

Hands-on approach, Autonomous students,  
Project approach, Scientific excellence



BORDEAUX  
SCIENCES  
AGRO

## OUTLINE OF THE SEMESTER PROGRAM

Our world is changing. Demographic pressure, urbanization, changes in food systems, unequal distribution of natural resources, climate change,... are some of the issues challenging our societies.

They are questioning the options that can be proposed by research communities and policy makers, showing different possible paths of development.

This semester program is meant to allow students to understand the main drivers of these changes, to discover the latest scientific research results, and to question themselves on the possible political and societal answers to be addressed.



## THE TRACK



### › AGRICULTURE AND GLOBAL CHANGES (3 ECTS)

Professors: Thomas Nesme and Sylvain Pellerin

This course provides knowledge and skills that will enable students to perceive the nature and intensity of global changes, to understand their interactions with agricultural activity and to identify what the new questions submitted to agronomists are. They can identify the main controversies associated with these global changes, with a special focus on climate change, and they are introduced to the main approaches and methods of global agronomy.

### › (R)EVOLUTION IN RUMINANT REPRODUCTION MANAGEMENT (2 ECTS)

Professor: Guillaume Durand

The aim of this course is to enable students to acquire the physiological basics of ruminant reproduction. It provides knowledge about current tools used to control the reproduction, and about alternatives to hormone treatments in ruminant farming. Students acquire key skills to advise breeders on innovative breeding lines in terms of reproduction.

### › PLANTS WITH HUMAN HEALTH BENEFITS (3 ECTS)

Professor: Catherine Bennetau

The focus of this course is to show how the growing conditions (terroir, genetics and cultivation techniques) can influence the levels of active ingredients and how they can be standardized. In addition, the course gives an overview of the different methods of cultivation and their specifications. They are also instructed on how the production of plants with health benefits can ensure the sustainability of production systems both environmentally and economically.

### › **WORLDWIDE AGRICULTURE (3 ECTS)**

Professor: Jean-Philippe Fontenelle

This course enables students to be exposed to the diversity of agricultural systems worldwide, to understand the impact of rural societies and environment interaction on this diversity and to gain more insight into the current evolution of these agricultural systems linked to demographic, urban, developmental and environmental changes. They will learn the concepts and tools used by agronomists to address these diversity and evolution issues, and will practice on a specific case study.

### › **WATER RESOURCE MANAGEMENT (3 ECTS)**

Professor: Jean-Philippe Fontenelle

This course will expose students to the different important issues related to water resource management. They will first learn about the quantitative management of water used in agriculture and its potential impact on water resource quality and availability. They will then approach water quality control and sanitation systems organized to secure human needs. They will finally look at principal water management dynamics in terms of policies, facilities and institutions worldwide, by being exposed to a series of case studies.

### › **FOOD MICROBIOLOGY AND FOOD SAFETY (3 ECTS)**

Professors: Benoît Grossiord and Muriel Denayrolles

In this course, students are able to understand measures and tools used by the food operators in order to control the quality of food in relation to the food safety issues. A special focus will be made on hazards of microbiological origin in foodstuffs: from regulation (legal rules) to microbiological analysis.

### › **FOOD SUPPLEMENTS: SAFETY, EFFICIENCY, AND INNOVATION (3 ECTS)**

Professor: Catherine Bennetau

This course gives students the opportunity to understand what becomes of plant substances when they have been ingested. They are able to examine the effects of intestinal flora and the ways to control it. They are also informed of toxic effects either for intrinsic reasons or because of external contamination by environmental pollutants. Students also familiarize themselves with the techniques of analysis of these contaminants with their strengths and their constraints.

### › **INDEPENDENT SCIENCE AND POLICY RESEARCH (6 ECTS)**

Professor: Jean-Philippe Fontenelle

This research project will be organized as personal work for which students will have to choose their own research question on a subject related to societal issues such as climate changes, food systems, resource management, human health, agriculture systems, etc. On the basis of an initial literature review and supported by several coaching sessions, each student will be able to produce a research paper organized as a policy brief.

### › **FRENCH AS A FOREIGN LANGUAGE (3 ECTS)**

### › **SPORT (1 ECTS)**



“OUR WORLD IS CHANGING”



In a calm and green environment only a few minutes away from downtown Bordeaux, Bordeaux Sciences Agro provides its students with the best living conditions during their studies

- 5 student residences with over 300 rooms
- Numerous student associations and clubs
- A large selection of sports and activities

## A strong higher-education and research institution

- 14 research units
- 3 technology transfer units
- Degree is certified ISO 9001
- A sustainable campus



## Bordeaux: a UNESCO World Heritage City

- A strong scientific and educational community
- A rich cultural life
- A vibrant economy and tourism



## Bordeaux: a great geographic location

- Beautiful Atlantic beaches (55km)
- Skiing in the Pyrénées (3h15)
- Spain (2h30)

## Nouvelle-Aquitaine: First agricultural European region

- A world leader in wine production
- France's top wine region with regard to quality and origin
- Home to the largest planted forest in Europe

## Contact

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