

Bachelor's degree in Agronomic Science Engineering

BARCELONA SCHOOL OF AGRI-FOOD AND BIOSYSTEMS ENGINEERING (EEABB)

On the **bachelor's degree in Agronomic Science Engineering** (which merges the content that had until now been taught on the bachelor's degrees in Agricultural Engineering and Agricultural, Environmental and Landscape Engineering), you will acquire the scientific and technological knowledge to design, plan, supervise and manage processes related to agricultural and livestock production; food quality control and safety mechanisms; the economic viability of farming companies; actions for environmental and landscape preservation and improvement; spatial planning; and fruit and vegetable production.

You can choose between two majors:

Horticulture and Gardening. You will receive multidisciplinary training in areas such as environmental management systems; water use; landscape design; implementation of green spaces; ecosystems and biodiversity; fruit and vegetable production; and plant propagation and nursery techniques. You will also learn the fundamentals of engineering technology, which will enable you to design green spaces and carry out environmental conservation and improvement, landscaping and fruit and vegetable production projects.

Agricultural Production. You will receive training in animal health, nutrition and welfare; livestock production systems; extensive farming and fruit and vegetable production; irrigation technology; agricultural machinery and buildings; crop protection; waste management; agroecology; and organic food production.

MAJORS

- Horticulture and Gardening
- Agricultural Production

GENERAL DETAILS

Duration

4 academic years

Study load

240 ECTS credits (including the bachelor's thesis). One credit is equivalent to a study load of 25-30 hours.

Delivery

Face-to-face

Admission mark 2025-2026 academic year

6,756

Timetables

In the first year of bachelor's degree there are class groups in the morning and in the afternoon. In the remaining semesters classes are generally in the afternoon.

Language of instruction

Check the language of instruction for each subject (and timetable) in the course sheet in the curriculum.

Information on [language use in the classroom and students' language rights](#).

Fees and grants

Approximate fees per academic year: €1,061 (€1,800 for non-EU residents). [Consult the public fees system based on income \(grants and payment options\)](#).

Location

[Barcelona School of Agri-Food and Biosystems Engineering \(EEABB\)](#)

Official degree

ADMISSION**Places**

55

Pre-enrolment code

31097

Places via a change of degree

10

Admission mark 2025-2026 academic year6,756. [Admission mark](#)**Weighting. University entrance examinations (PAU)**[Weighting. University entrance examinations \(PAU\)](#)**Registration and enrolment**[What are the requirements to enrol in a bachelor's degree course?](#)**CFGS credit transfer**[Consult the university studies search engine of the Universities Channel of the Generalitat de Catalunya](#)**Legalisation of foreign documents**All documents issued in non-EU countries must be [legalised and bear the corresponding apostille](#).**CURRICULUM**

Subjects	ECTS credits	Type
FIRST SEMESTER		
Chemistry I	6	Compulsory
Drawing for Engineering	6	Compulsory
General Biology	6	Compulsory
Mathematics I	6	Compulsory
Physics I	6	Compulsory
SECOND SEMESTER		
Chemistry II	6	Compulsory
Earth Sciences	6	Compulsory
Mathematics II	6	Compulsory
Physics II	6	Compulsory
Plant Biology	6	Compulsory
THIRD SEMESTER		
Basic Plant Production	6	Compulsory
Cropping Systems	6	Compulsory
Energy Systems and Components	6	Compulsory
Hydraulics	6	Compulsory
Statistics	6	Compulsory

FOURTH SEMESTER

Subjects	ECTS credits	Type
Agricultural Mechanisation	6	Compulsory
Animal Production	6	Compulsory
Geomatics	6	Compulsory
Market Analysis and Agricultural Valuation	6	Compulsory
Plant Genetics and Breeding	6	Compulsory
FIFTH SEMESTER		
Business Economics and Management	6	Compulsory
Crop Protection	6	Compulsory
Horticultural Technology	6	Compulsory
Animal Feeding and Nutrition	6	Compulsory
Animal Feeding and Nutrition	6	Compulsory
Implementation and Management of Green Spaces	6	Compulsory
Implementation and Management of Green Spaces	6	Compulsory
Landscape History and Composition	6	Compulsory
Landscape History and Composition	6	Compulsory
Ruminant Production	6	Compulsory
Ruminant Production	6	Compulsory
SIXTH SEMESTER		
Environmental Studies of Projects	6	Compulsory
Horticultural Production	6	Compulsory
Irrigation and Drainage Technology	6	Compulsory
Grain and Biomass Crops	6	Compulsory
Grain and Biomass Crops	6	Compulsory
Landscape Design	6	Compulsory
Landscape Design	6	Compulsory
Monogastric Animal Production	6	Compulsory
Monogastric Animal Production	6	Compulsory
Multiplication and Nurseries	6	Compulsory
Multiplication and Nurseries	6	Compulsory
SEVENTH SEMESTER		
Construction and Structural Design	6	Compulsory
Advanced Statistics	6	Optional
Agroecology	6	Compulsory
Agroecology	6	Compulsory
Climate and Climate Change in Agri-Food and Biological Systems	6	Optional
Economic Botany	6	Optional
Entrepreneurship	3	Optional
Entrepreneurship in the Agri-Food Sector	6	Optional

Subjects	ECTS credits	Type
Life-Cycle Assessment of Products and Processes	6	Optional
Organic Agriculture	6	Optional
Postharvest and Logistics	6	Compulsory
Postharvest and Logistics	6	Compulsory
Viticulture	6	Optional
Work Placement	12	Optional

EIGHTH SEMESTER

Project Workshop	6	Compulsory
Waste and Water Treatment and Use	6	Compulsory
Data Analysis and Visualization	6	Optional
Digital Agro Food and Farming	6	Optional
Integrated Management of Pests, Diseases and Weeds	6	Optional
Introduction to Digitalization in Agrofood Industry 4.0	3	Optional
Properties and Applications of Biological Materials	6	Optional
Sensors and Digital Mapping in Agriculture and Environmental Sciences	3	Optional
Bachelor's Thesis	18	Project

PROFESSIONAL OPPORTUNITIES

Professional opportunities

- Technical management of agricultural and livestock farms and plant nurseries.
- Freelance work: projects, consulting, advice, appraisals, site management, environmental studies, surveying applications, occupational health and safety studies, etc.
- Public administrations (European Union, Spain, autonomous communities, city councils): rural development; spatial planning and management of rural areas; planning and management of green spaces and sports areas; management and use of municipal waste; and restoration and recovery of natural spaces.
- Agricultural service companies: agricultural and livestock facilities, rural infrastructure, agricultural machinery, seeds, pesticides, fertilisers, irrigation systems, computer technologies for agriculture, quality control, etc.
- Management and handling of water resources for agricultural use and agroenergy resources and use of agricultural waste.
- Management of agricultural companies and cooperatives and marketing and sales.
- Environmental and landscaping service companies: environmental impact and restoration studies and design of gardens and green spaces.
- Research and development in companies and public bodies: agricultural biotechnology, rural development, agricultural economics, food engineering, rural engineering, environmental management, and animal and crop production.

DOUBLE-DEGREE AGREEMENTS

With the Universitat Rovira i Virgili (URV)

- Bachelor's degree in Agronomic Science Engineering / Bachelor's degree in Oenology

QUALITY ACCREDITATION

Check the degree's main quality indicators in the University Studies in Catalonia portal of the Catalan University Quality Assurance Agency. Find information on topics such as degree evaluation results, student satisfaction and graduate employment data.

[Further information](#)

Academic calendar

[General academic calendar for bachelor's, master's and doctoral degrees courses](#)

Academic regulations

[Academic regulations for bachelor's degree courses at the Universitat Politècnica de Catalunya \(UPC\).](#)

Language certification and credit recognition

Queries about [language courses and certification](#)