



# *Bachelor's Degree in* **AGRICULTURAL ENGINEERING**



**Modern agriculture, efficient  
and technologically advanced  
based on the respect for the  
environment and animal  
welfare**

Productive and quality agriculture, organic agriculture,  
local food, ...



**UNIVERSITAT POLITÈCNICA DE CATALUNYA  
BARCELONATECH**

**Escola Superior d'Agricultura de Barcelona**

Escola Superior d'Agricultura de Barcelona:  
Edifici D4 | C. Esteve Terradas 8 | 08860 Castelldefels (Barcelona)  
www.esab.upc.edu | e-mail: secredire.esab@upc.edu



Further information and application:  
cbl.relacions.externes@upc.edu

### INTRODUCTION

The bachelor's degree in Agricultural Engineering will provide you with the scientific and technological knowledge necessary to design, plan, manage and organise processes related to agricultural and livestock production, quality control and food safety mechanisms, and the economic viability of agricultural business. You will receive multidisciplinary training in vegetable production techniques and their application to the management of agricultural and horticultural farms, in animal production techniques and their application to the management of livestock farms, and in the technological foundations of engineering for designing agricultural production facilities and agro-industrial buildings.

**Professional recognition** Technical agricultural engineer

**Duration** 4 years

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

**Delivery** Face-to-face classes.



### PROFESSIONAL OPPORTUNITIES

- Technical management of agricultural and livestock farms.
- Freelance work: projects, consultancy, advice, appraisals, site management, environmental studies, etc.
- Rural development, spatial planning and management in the public administration.
- Agricultural service companies: agricultural and livestock facilities, rural infrastructure, agricultural machinery, seeds, fertilisers, pesticides, irrigation systems, etc.
- Design and management of water resources for agriculture and agro-energy projects.
- Quality control and food safety.
- Environmental impact assessment and agricultural waste management.
- Finance, marketing and management of Agro-business.

### COURSE STRUCTURE

|                 | FALL   | SPRING   |
|-----------------|--|--|
| <b>1st year</b> | <b>FIRST SEMESTER</b><br>General Biology (6)<br>Drawing for Engineering (6)<br>Physics I (6)<br>Mathematics I (6)<br>Chemistry I (6)   | <b>SECOND SEMESTER</b><br>Plant Biology (6)<br>Earth Sciences (6)<br>Physics II (6)<br>Mathematics II (6)<br>Chemistry II (6)  |
| <b>2nd year</b> | <b>THIRD SEMESTER</b><br>Ecology and Environmental Management Systems (6)<br>Economics and Business Administration (6)<br>Statistics (6)<br>Hydraulics (6)<br>Energy Systems and Components (6)                              | <b>FOURTH SEMESTER</b><br>Foundations of Plant Production (6)<br>Animal Production (6)<br>Plant Production Systems (6)<br>Geomatics (6)<br>Market Analysis and Agricultural Valuation (6)    |
| <b>3rd year</b> | <b>FIFTH SEMESTER</b><br>Agricultural Mechanisation (6)<br>Animal Anatomy and Physiology (6)<br>Animal Production Systems (6)<br>Horticulture: Vegetable and Ornamental Production (6)<br>Horticulture: Fruit Production (6) | <b>SIXTH SEMESTER</b><br>Irrigation Technology (6)<br>Animal Production Techniques (6)<br>Grain and Biomass Crops (6)<br>Genetics and Breeding (6)<br>Construction and Structural Design (6) |
| <b>4th year</b> | <b>SEVENTH SEMESTER</b><br>Crop Protection (6)<br>Bachelor's Thesis or Project (24)<br>Work Placement (12)<br>National and International Mobility: Sicue, Erasmus...(up to 24)   | <b>EIGHTH SEMESTER</b><br>Organic Waste Treatment and Use (6)<br>Bachelor's Thesis or Project (24)   |
|                 | <b>ELECTIVE COURSES: (up to 24)</b><br>Viticulture (6)<br>Extensive Animal Husbandry (6)<br>Organic Agriculture (6)<br>Entrepreneurship in the Agro-Food Sector (6)  | <b>ELECTIVE COURSES: (up to 24)</b><br>Advanced Statistics (6)<br>Local Food Processing (6)  |