Leaving Certificate Agricultural Science

A modern science of sustainability, technology, and food production.

Ireland’s Fastest-Growing Subject

- Agricultural Science is the study of the science and technology underlying the principles and practices of agriculture in Ireland.
- It is designed to provide students with the necessary skills, practical experience, and knowledge in a range of scientific principles.

Core Mission: To develop knowledge, skills, and attitudes that promote the sustainability of agricultural resources, placing a heavy emphasis on the managed use of our natural environment.

Who Is This Subject For?

Broad Appeal

Highly popular in both rural and city schools. You do not need an agricultural background to succeed.

Strategic Overlap

An excellent companion subject to Biology and/or Geography due to significant overlap in course content.

Recognised Science
Fully recognised as a laboratory science subject for 3rd-level courses, including nursing.

Future Pathways

A proven stepping stone for students planning to study Veterinary Medicine, General Science, or Human Medicine.

Future Career Possibilities

The skills learned here open doors across massive global sectors including Animals & Veterinary Science, Earth & Environment, and Food & Drink.

Veterinary Science & Animal Health

Food Science & Nutrition

Agricultural Engineering & Technology

Environmental Science & Forestry

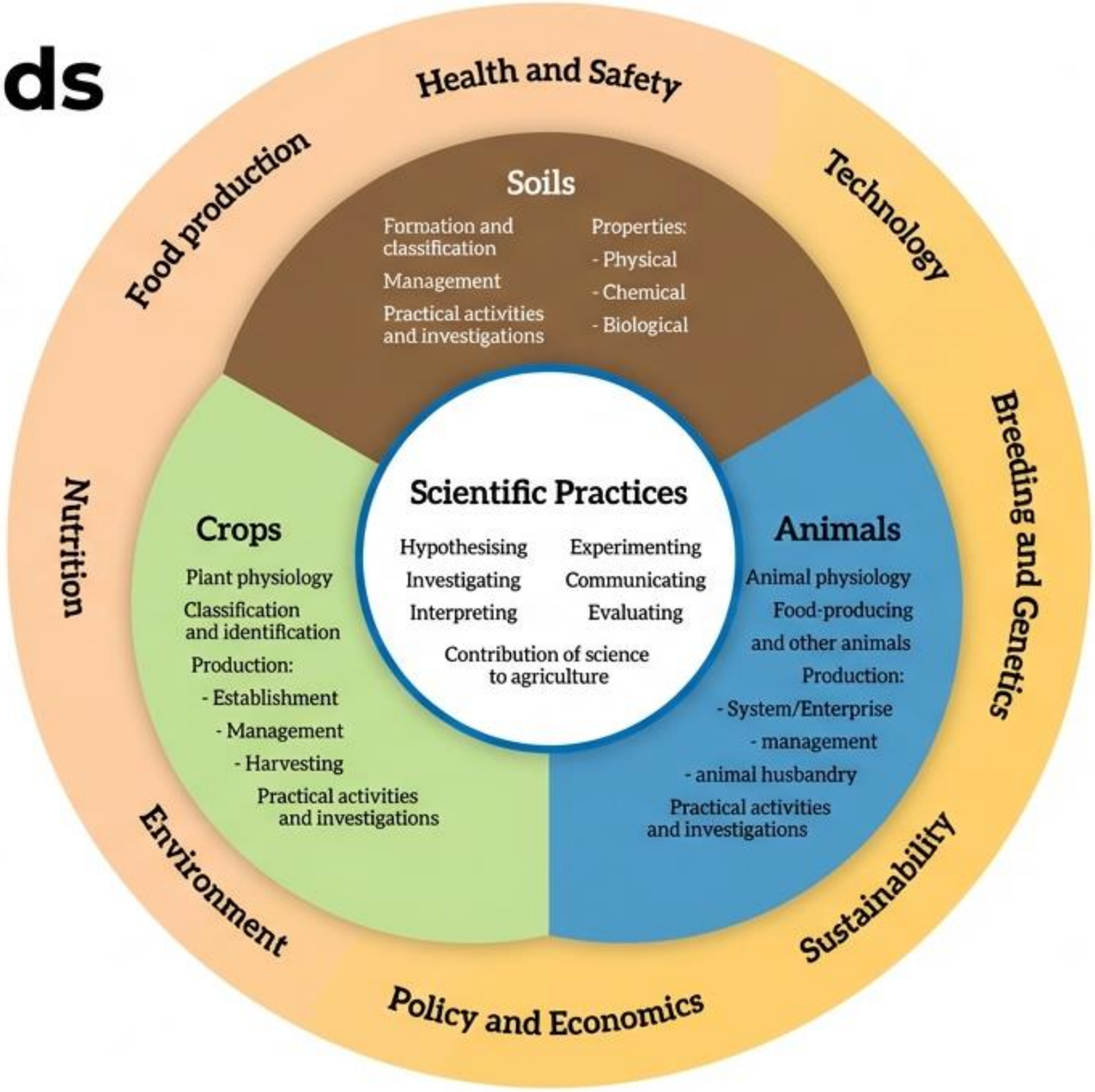
Horticulture, Sports Turf Management & Greenkeeping

Agricultural Advisory & Teaching

The Four Core Strands

A broad but fascinating course examining the principal farming enterprises in Ireland and the deep science underpinning them.

- **Strand 1: Scientific Practices**
- **Strand 2: Soils**
- **Strand 3: Crops**
- **Strand 4: Animals**



Strand 1: Scientific Practices

- Hypothesising and experimenting
- Evaluating evidence and communicating findings
- Interpreting data
- Working safely in laboratory and field settings
- Understanding the contribution of science to modern agriculture

Strand 2: Soils

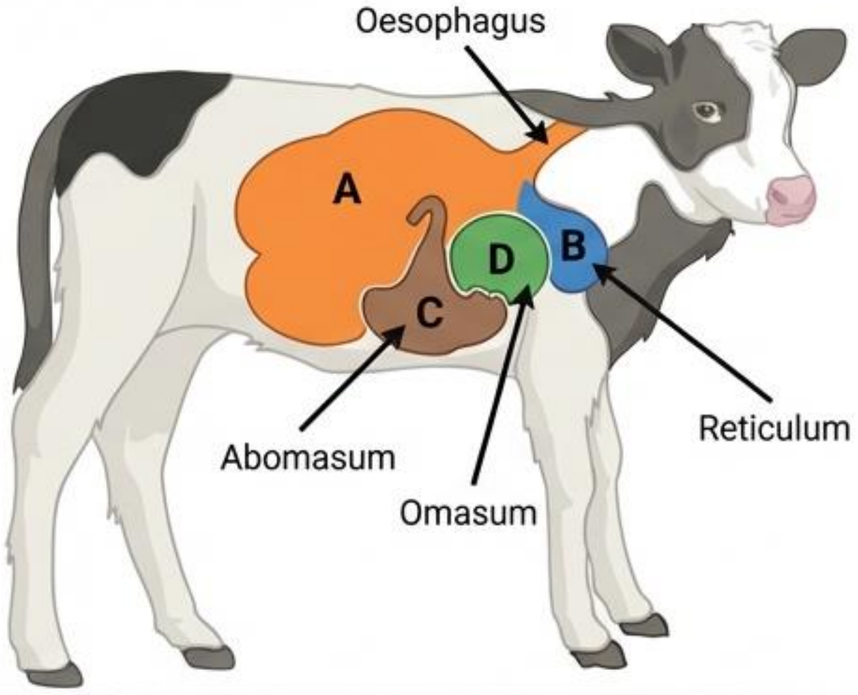
- Soil formation and classification
- Physical characteristics of soil
- Chemical characteristics of soil
- Biological characteristics of soil
- Sustainable soil management and practical field investigations

Strand 3: Crops

- Plant physiology, applied genetics, and classification
- Principles of crop production and management
- Major enterprises: Barley and Potatoes
- Specialized crops: Catch crop (Kale) and Energy crop (Miscanthus)
- Grassland characteristics, grazing, sowing, reseeding, and conservation

Strand 4: Animals

- Animal physiology, classification, and identification
- Major production systems: Dairy, Beef, Sheep, and Pigs
- Enterprise management
- Animal husbandry and health



Learning beyond the classroom walls

Mandatory Activities

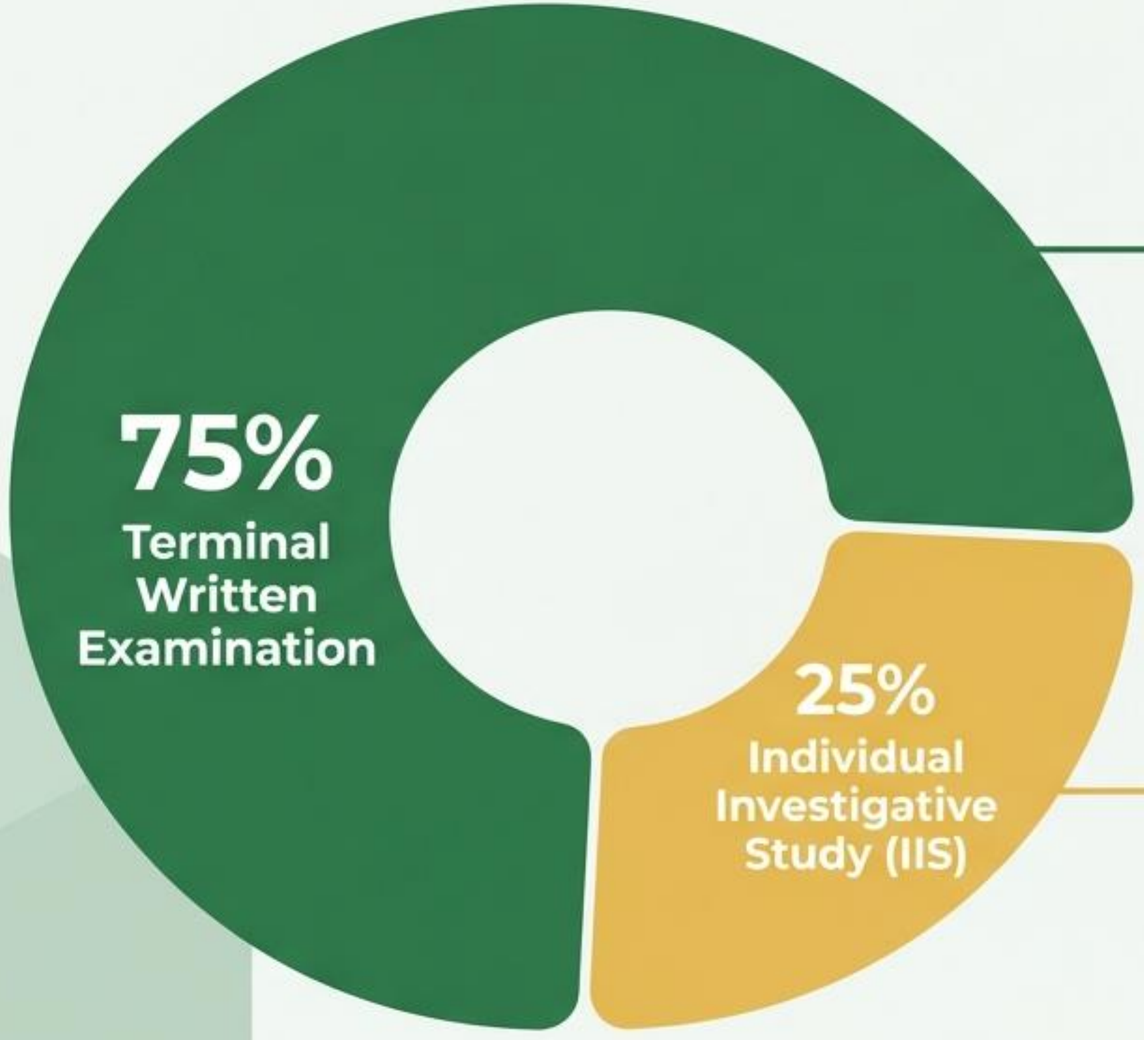
22 mandatory practical experiments (22 for Higher Level, 20 Ordinary Level).

Real-World Application

Regular field trips to contextualize learning.

Examples include:
Delaney's dairy farm,
Fitzgeralds barley/potato farm,
National Ploughing Championships.

A balanced approach to assessment



75% Terminal Written Examination

A 2.5-hour paper testing knowledge, critical thinking, and problem-solving.

25% Individual Investigative Study (IIS)

A thematic project completed during the year, reducing pressure on the final exam.

Available at Higher and Ordinary Levels

The Project: Individual Investigative Study (25%)

The Format:

A 2,500-word digital report based on your own primary data, experiments, and secondary research.

Example of Theme:
Explore how an environmentally sustainable food production system could support Ireland's future agricultural competitiveness.

The Process:

Select Enterprise → Develop Question → Design Experiment → Collect Data → Write Report

25%

Key Takeaway: You bank a quarter of your final Leaving Certificate grade before ever stepping foot into the exam hall.

Inside the 75% Written Examination

Duration: 2.5 hours (Higher and Ordinary Levels)

Section A
(Recommended 50 mins)

- Answer 10 out of 12 short questions.
- Internal choice provided.
- Tests recall and targeted application.
- (10 marks each).

Section B
(Recommended 100 mins)

- Answer 4 out of 6 long questions.
- Tests critical thinking, experimental design, and data analysis.
- (50 marks each).

National Grades & Performance

Agricultural Science rewards consistent effort. In 2024, at Higher Level, over 63% of students achieved an H3 or higher.

H1 13.6%

H2 24.4%

H3 25.6%