Oide

Tacú leis an bhFoghlaim Ghairmiúil i measc Ceannairí Scoile agus Múinteoirí

Supporting the Professional Learning of School Leaders and Teachers

# Senior Cycle Agricultural Science Introductory Day 2023-2024

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# Key Messages

- Agricultural Science is a subject for all and through its implementation of key skills students will be prepared and empowered to contribute to society and manage future challenges confidently.

- Strand 1 is an overarching strand, the themes of which permeate all strands of the specification and will be progressively developed over the course of the senior cycle.

- A student-centred approach to teaching and learning that develops students' critical thinking skills in agricultural science applying their learning in differentiated, collaborative, creative and innovative ways.

# The Specification Aims

Leaving Certificate Agricultural Science aims to enable students to:

- Appreciate the natural environment and human interactions with it and the sustainable use of its resources, recognising the need for a rationale and balanced approach to the exploitation of these resources in a local and global context

- Recognise the need for, and global importance of, relevant strategies and policies to promote the agri-food industry while insulating it from future challenges (e.g. climate change, novel crop and animal diseases) and identify opportunities for innovation and entrepreneurship in the context of local, regional and world markets

- Develop their scientific knowledge and skills, in the context of agricultural practices, and increase their awareness of health and safety issues associated with these practices.

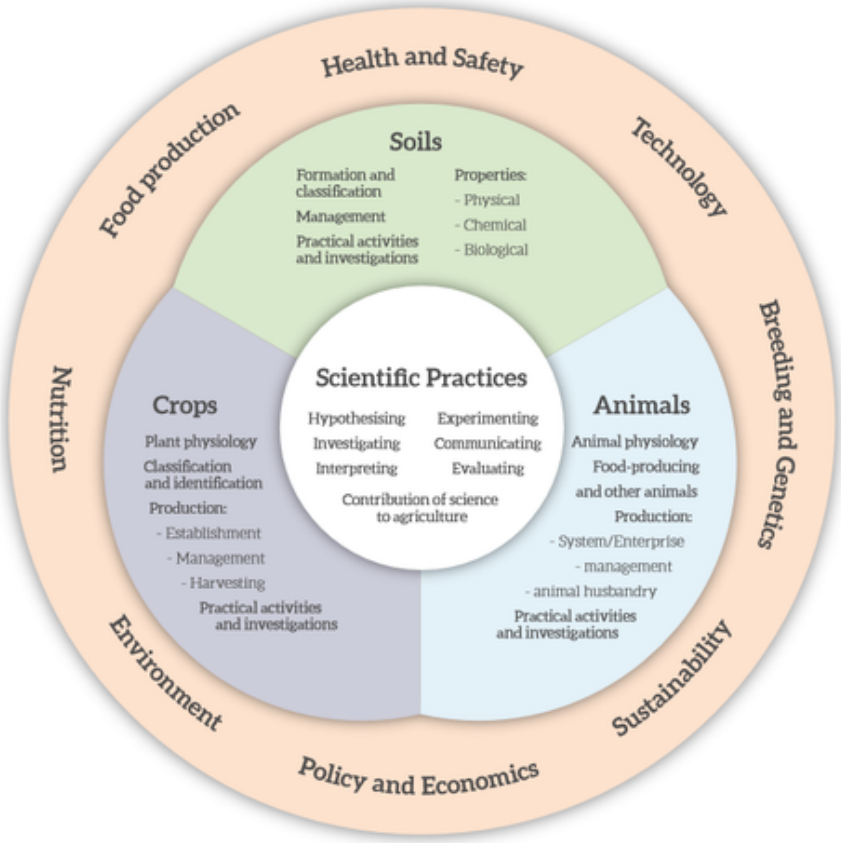
# Course Objectives

Students should:

- Develop an ecological awareness in the context of the provision of food and non-food materials
- Recognise the impact of various agricultural practices on the environment and appreciate how the application of science and technology affects the individual, the community and the environment
- Become aware of the contribution of agriculture to the economy of the locality and the nation and its importance in EU and world contexts
- Make informed evaluations of contemporary agricultural science issues locally and globally
- Understand that the study and practice of science are primarily co-operative activities which are subject to social, economic, technological, ethical and cultural influences, and legislative and economic considerations
- Develop independent thinking, problem-solving and self-directed learning skills through active engagement in their own learning and through project work
- Understand the need for safety in conducting laboratory and field investigations.

*(Objectives, Agricultural Science Specification 2018, Page 8)*

# Overview of the Specification




*(Overview of the specification, Agricultural Science Specification 2018, Page 11)*

- **Three contextual strands : Soil, Crops and Animals**
- **One overarching strand : Scientific Practices**
- **Eight cross cutting themes which permeate the contextual strands**

# Key Skills in Agricultural Science


*Specification p13*

**Information Processing: Learners will research the work and ideas of other artists.**
**Learners will record their own observations of the world around them.**

**Critical and Creative Thinking: Learners will develop this skill through examining relationships, developing and testing hypothesis, designing experimental tests to prove or disprove assumptions, solving problems and applying those solutions to new contexts**

**Working With Others: Learners may work collaboratively and through this they will learn from others, but more importantly they will be engaged in a social experience involving the understanding of interpersonal dynamics.**

**Being Personally Effective: Learners will gain an understanding of setting personal goals, working to a timetable or deadline, choosing and using resources effectively and acting autonomously**

**Communicating: Through the act of creating, learners will see the need to communicate their intent clearly to various audiences, so their ideas and work are better understood.**

# Working with learning outcomes

## Learning outcomes, learning intentions and success criteria – Making the connection

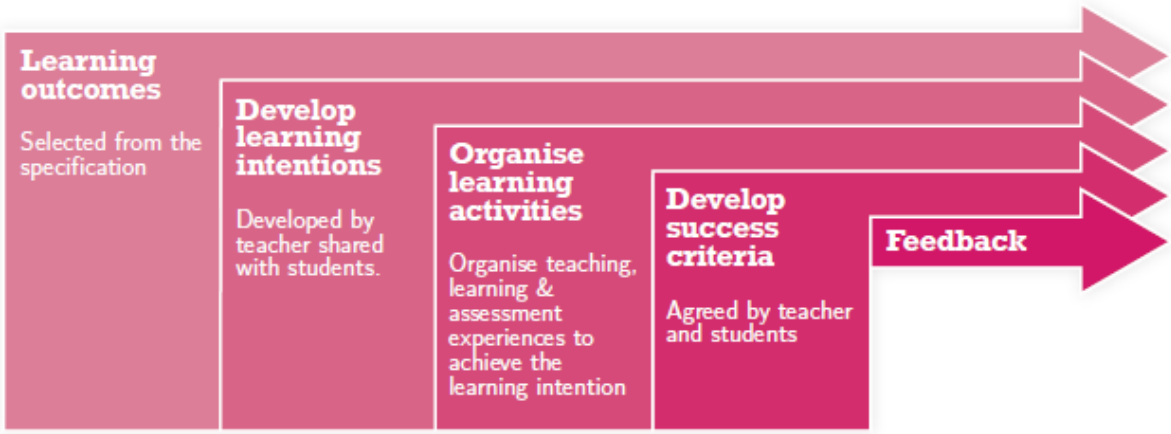



**Figure 1: Planning teaching learning and assessment**

**Learning outcomes** provide the building blocks for teachers to plan their teaching, learning and assessment. Teachers can then use learning intentions and success criteria to take forward their planning and enable the learning outcomes to come alive in practice with their students.

The Figure 1 above shows the relationship between learning outcomes, learning intentions and success criteria.

### What are learning outcomes?

Learning outcomes are statements in curriculum specifications to describe the knowledge, understanding, skills and values students should be able to demonstrate after a period of learning.

### What are learning intentions?

A learning intention for a lesson or series of lessons is a statement, created by the teacher, that describes clearly what the teacher wants the students to know, understand, and be able to do as a result of specific learning and teaching activities. Clear learning intentions should help students focus not just on the task or activity taking place but on what they are learning. Learning intentions are always linked to one or more learning outcomes in the specification.

### What are success criteria?

Success criteria are linked to learning intentions and therefore to the learning outcomes. They are developed by the teacher and/or the student and describe what success looks like. They help the teacher and student to make judgements about the quality of student learning.


Resources to help you in planning using learning outcomes, learning intentions, success criteria can be found on the NCCA website here.

# Documents Supporting the IIS




| 2019 Specification | IIS Guidelines, NCCA, 2019 | IIS Brief, SEC, 2019 |
|---|---|---|
| | | |
| **SEC Information Note, 2021** | **SEC Marking Criteria** | **PDST Supportive Information for IIS** |
| | | |

# Activity 1: Jigsaw activity- Key take home messages

## Station 1: Scientific practices and Coursework

## Station 2: Specification and teaching & learning

## Station 3: Written assessment

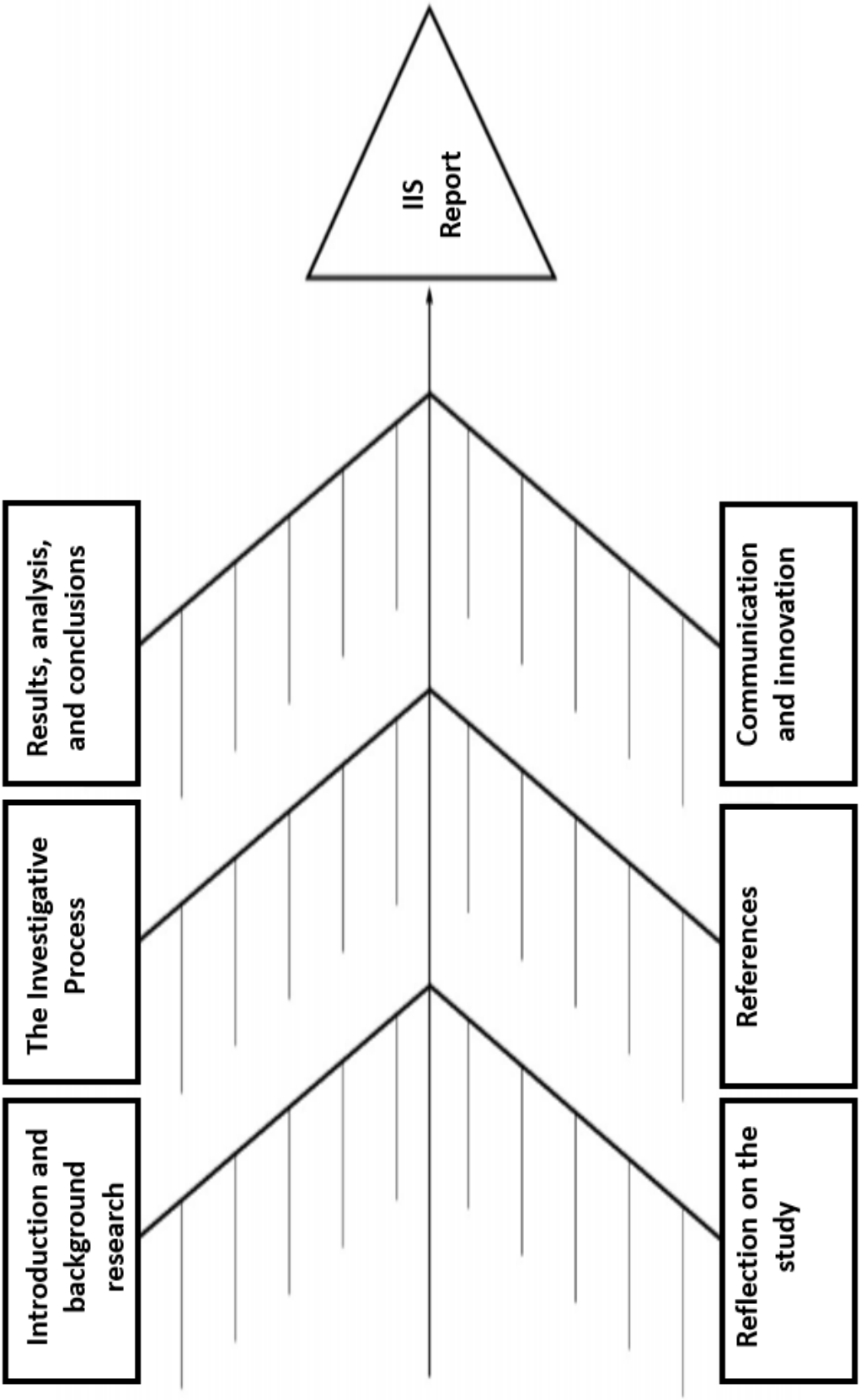
# Feedback from other groups

## Group 1

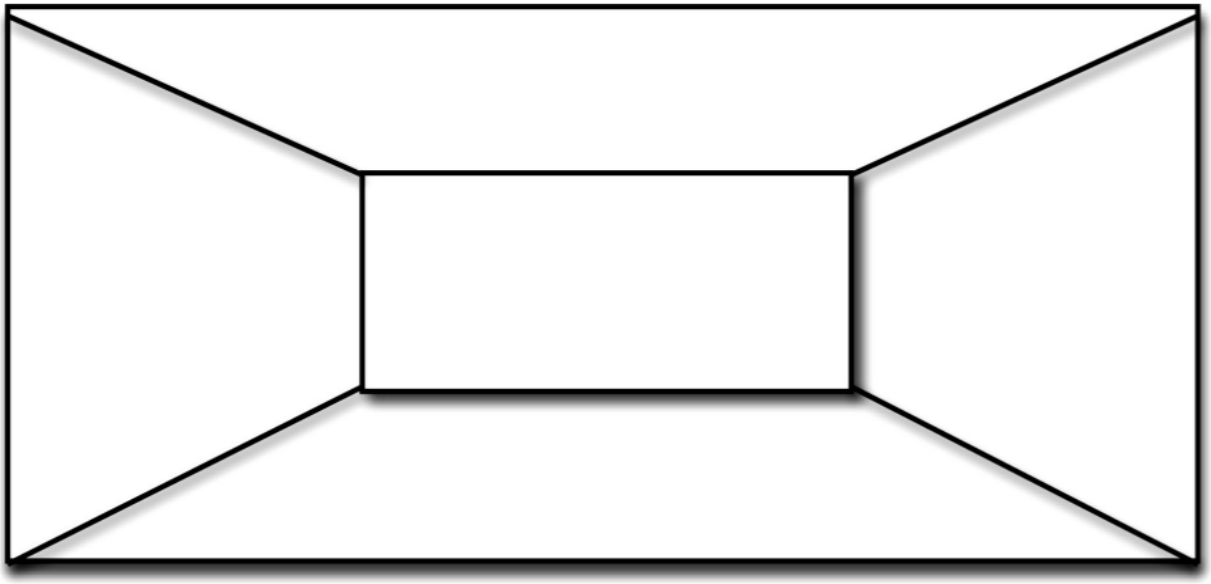
## Group 2

## Group 3

# Features of Quality for IIS



# Notes from SEC Information Note



**Notes:**

# 4 Teaching and learning

Senior cycle students are encouraged to develop the knowledge, skills, attitudes and values that will enable them to become independent students and to develop a lifelong commitment to improving their learning.

Leaving Certificate Agricultural Science supports the use of a wide range of teaching and learning approaches, emphasises practical experience of science for each learner. The importance of the processes of science as well as knowledge and understanding is reflected throughout the learning outcomes. As students progress they develop learning strategies that are transferable across different tasks and different disciplines, enabling them to make connections between agricultural science, other subjects, and their everyday experiences. Through engaging in self-directed activities and reflection, students assume responsibility for planning, monitoring, and evaluating their own learning and, in so doing, develop a positive sense of their own capacity to learn. By engaging in group work students develop skills in reasoned argument, listening to each other, informing one another about what they are doing, and reflecting on their own work and that of others.

Students integrate their knowledge and understanding of agricultural science with its ethical, social, economic and environmental implications and applications. Increasingly, arguments between scientists extend into the public domain. By critically evaluating scientific texts and debating public statements about science, students engage with contemporary issues in agricultural science that affect their everyday lives. They learn to interrogate and interpret data—a skill which has a value far beyond agricultural science, useful wherever data are used as evidence to support argument. By examining and debating reports about contemporary issues in science students develop an appreciation of the social context of science. They develop skills in scientific communication by collaborating to generate reports and present them to their peers.

The variety of activities that students engage in will enable them to take charge of their own learning by setting goals, developing action plans, and receiving and responding to assessment feedback. Students vary in the amount and type of support they need to be successful. Levels of demand in any learning activity will differ as students bring different ideas and levels of understanding to it. The use of strategies for differentiated learning such as adjusting the level of skills required, varying the amount and the nature of teacher intervention, and varying the pace and sequence of learning will allow students to interact at their own level.

Use of technology should be included to enhance student learning, for example by enabling students to work more efficiently or to complete work that otherwise could not be done. The portability of laboratory sensor systems makes them useful for work outside as well as inside the classroom, and ICT should be used to collect, record, analyse and display data and information. The increasing use of technology in agriculture and modern farming practice should be reflected in the study of agricultural science.

# Think - Pair - Share - Teaching & Learning

| Question | My thoughts / ideas | My partners thoughts / ideas | Combined ideas |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

# Reflecting on Active Learning in my Classroom

| |
|---|
| **Student centred learning** |
| **How to develop key skills** |
| **Assessment (AOL/AFL)** |

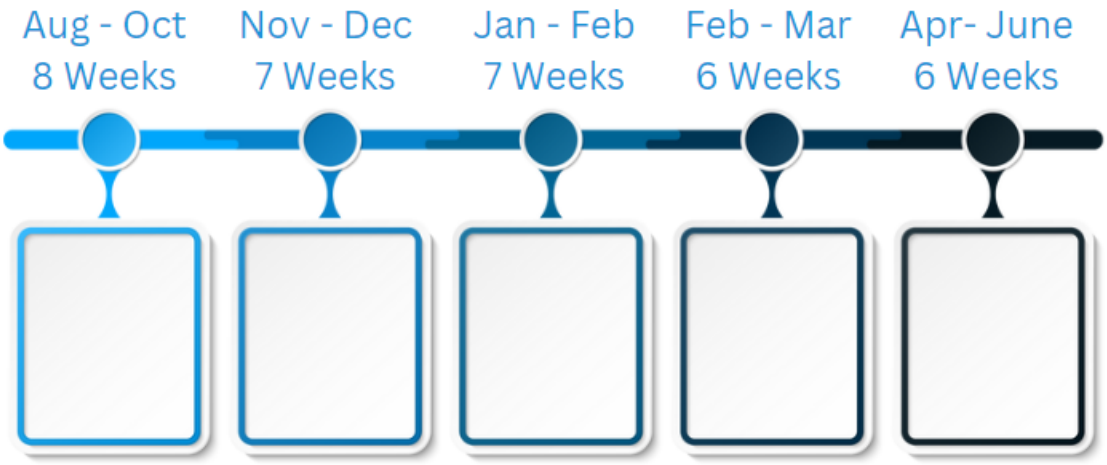
## How do I embed cross cutting themes

## Incorporating strand 1

## Student voice

# Planning the Academic Year

## The school year (term by term)

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|---|---|
| Apr - June 6 weeks | |
| Mar - Apr 6 weeks | |
| Jan - Feb 6 weeks | |
| Nov- Dec 7 weeks | |
| Sept - Nov 9 weeks | |
| | Fifth year topics 2023-24 |

# Planning the Academic Year

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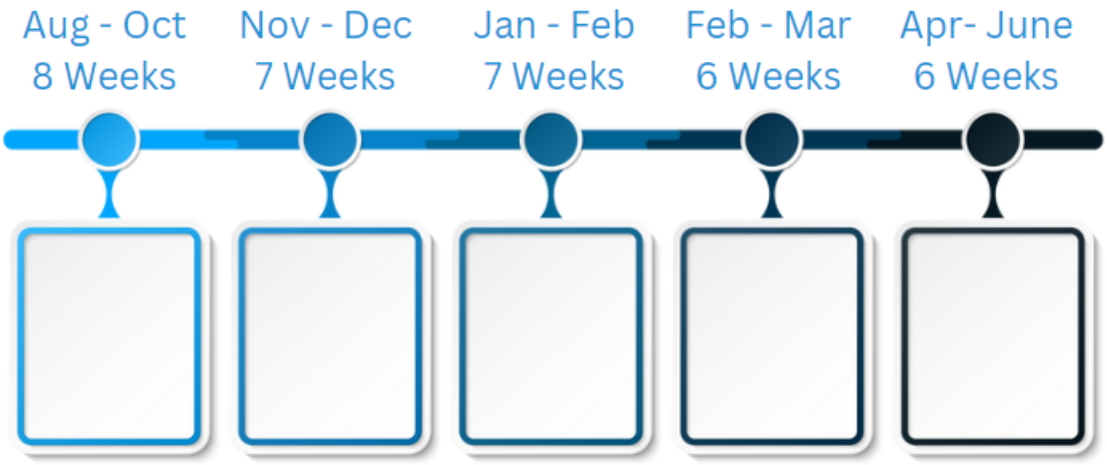


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# Additional Information & Notes

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