Andrew Cussen andrewcussen18@gmail.com

Biology Course Outline 2025-2026

Unit 1	Unit 2	Unit 3
Scientific Method Characteristics of Life Food Ecology	Cell Structure Cell Diversity Cell Division Enzymes Osmosis/Diffusion Photosynthesis Respiration DNA and RNA Genetic Crosses Variation and Evolution Genetic Engineering	Five Kingdoms of Life Monera (Bacteria) Fungi Protista (Amoeba) Viruses Blood The Heart Lymphatic System Human Breathing Human Digestion Homeostasis Excretion Nervous System The Senses Endocrine System Skeleton Human Defence System Human Reproduction Structure of a Plant Transport in a Plant Plant Responses Plant Reproduction Vegetative Propagation

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Biology Experiments 2025-2026

The following list is the 22 mandatory experiments as part of the LC Biology course.

The numbers represent the units (i.e. 1.1 = Unit 1, Experiment 1)

Note: the order of completion of these experiments is subject to change. All experiments will be completed over the course of the LC Biology program.

Chapter/Topic	Experiment
Food	1.1 To conduct qualitative food tests
Ecology & Habitat/Field Study	1.2 To use a key to identify flora/fauna 1.3 To use apparatus to collect plants/animals 1.4 To carry out quantitative survey of plants 1.5 To carry out quantitative survey of animals 1.6 To investigate abiotic factors
Cell Structure	2.1 To use a microscope 2.2 To prepare and examine plant cell 2.3 To prepare and examine animal cell
Enzymes	2.4 Effect of pH on enzyme activity 2.5 Effect of temperature om enzyme activity 2.6 Prepare immobilised enzyme 2.7 Effect of heat denaturation on enzyme activity
Photosynthesis	2.8 Influence of light intensity* on rate of photosynthesis
Respiration	2.9 anaerobic respiration: To prepare and show production of alcohol by yeast
Diffusion/Osmosis	2.10 To demonstrate osmosis
DNA & RNA	2.11 To isolate DNA from plant tissue
Fungi	3.1 To investigate the growth of leaf yeast using agar plates
Structure of Flowering Plants	3.2To prepare and examine a transverse section of a dicot stem
The Heart and Blood Vessels	3.3 Heart dissection 3.4 Effect of exercise on pulse **OR…**
Human Breathing	3.4 **…**Effect of exercise on breathing rate
Plan Responses	3.5 Effect of IAA growth regulator on plant tissue
Sexual Reproduction of Flowering Plants	3.6 Effect of water, oxygen and temperature on germination 3.7 Use starch agar to show digestive activity during germination

*Light intensity or carbon dioxide concentrations

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Leaving Certificate Biology 2026

The Leaving Certificate Biology exam is a 3-hour written exam divided into three sections: Section A, Section B and Section C.

- Section A consists of short questions from which students must answer any 5 out of 7 questions. This section is worth 100 marks, with each question worth 20 marks. I recommend students spend about 6 minutes per question.
- Section B experiment-based questions (with some links to theory) related to practical work carried out during the course. Students must answer 2 out of 3 questions. This section is worth 60 marks, with each question worth 30 marks. I recommend students spend about 15 minutes per question.
- Section C comprises long-form questions covering broader areas of the syllabus, and students are required to answer 4 out of 7 questions. This section is worth 240 marks, with each question worth 60 marks. Question 16 and 17 are composed of four parts (a, b, c and d), and students only need to complete two parts to obtain full marks. I recommend students spend about 30 minutes per question.

It should be noted that students best question answers will go towards their final mark. As timing generally is not an issue, I recommend students attempt as many questions as they can to help boost their grade!

Additional Tips:

- Definitions can be worth anywhere from 15-20% of the exam. Make sure to review the definitions from each chapter and include all relevant keywords to get your marks!
- Diagrams commonly feature in the exam. Make sure to draw large diagrams and include your labels. They do not need to be artistic masterpieces but they do need to represent what you are asked to draw in some way.
- Section C can often feature questions on pathways or giving an account of events. If asked to describe, explain or give an account of something, keep it concise and clear using bullet points. Again, including relevant keywords is crucial for securing full marks.

Focus on completing as many exam questions as possible and keep reviewing marking schemes. Biology is extremely repetitive. This is the best method to securing top results in the subject!

Below includes an outline of the exam:

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Biology Examination Layout

Section A – 100 marks	Section B – 60 marks	Section C – 240 marks
Short questions Answer 5 of 7 questions 20 marks per question Time: 6 mins per question Percentage worth: 25%	Experiment questions Answer 2 of 3 questions 30 marks per question Time: 10 mins per question Percentage worth: 15%	Long questions Answer 4 of 7 60 marks per question **Q16 and Q17-** Composed of 4 parts- you need to answers 2 parts. Time: 30 mins per question Percentage worth: 60%

Section A (100 Marks)

Students will be able to answer any five of seven questions. Section A is worth 100 marks.

- Two questions are usually asked from Unit 1

- Two questions are usually asked from Unit 2

- Two questions are usually asked from unit 3

- The extra 7th question can be asked from any of the 3 units

Section B (60 Marks)

Answer any two of three questions.

Each of the three questions will be aligned with a specific experiment section.

Section B is now worth 60 marks.

One question from these 8 experiments

- To test for starch, To test for lipids, To test for proteins, To test for a reducing sugars
- To use simply keys to identify 5 fauna and 5 flora
- To use different apparatus to collect plants and animal
- To carry out a quantitative survey of plants / To carry out a quantitative survey of animals.
- To investigate three abiotic factors.
- To be familiar with and to use a light microscope.

- To prepare a plant cell and examine using a light microscope / To prepare an animal cell and examine using a light microscope.
- To isolate DNA from a plant tissue

One question from these 7 experiments

- To investigate the effect of pH on enzyme activity
- To investigate the effect of temperature on enzyme activity
- To investigate the effect of heat denaturation on enzyme activity
- To prepare an enzyme immobilisation and examine its application
- To investigate the influence of light intensity or carbon dioxide on the rate of photosynthesis
- To prepare and show the production of alcohol using yeast
- To demonstrate osmosis

One question from these 7 experiments

- To investigate the growth of leaf yeast using agar plates
- To prepare and examine a transverse section (TS) of a dicot stem
- To dissect and identify the parts of a heart
- To investigate the effect of exercise on the pulse rate or To investigate the effect of exercise on the breathing rate
- To investigate the effect of IAA growth regulator on plant tissue
- To investigate the effect of water, oxygen and temperature on germination
- To use starch agar or skimmed milk plates to show digestive activity during germination

Section C (240 Marks)

Question 11 – 17 Students will be able to answer any four of seven questions.

Section C is now worth 240 marks.

- One question is usually asked from Unit 1

- Two questions are usually asked from Unit 2

- Three questions are usually asked from unit 3

- The extra 7th question can be asked from any of the 3 units.

An additional part (d) will be added to both of the following questions Q16 and Q17. In these two questions students will have a choice of four parts and to answer any two.

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Revision Guide

Definitions: How important are definitions?

Definitions are very important area as they have a major impact on your overall grade.

Definitions are usually worth around **15 - 20%** of the overall grade.

You should approach studying the definitions by chapter. You need to have a list of all the definitions on an A4 sheet or on flash cards so you can continuously look over them whenever you have free time and not waste time trying to find them in the notes.

SEC Exam Papers, Pre-LC Exam Papers and Additional Exam-Styled Questions

How important is it to use questions from previous exam papers?

It will make you aware of certain keywords that might be expected in certain answers to gain full marks. You will also notice that you can gain full marks without always giving every single detail on the question asked.

It is very important that past questions are continuously studied to improve your exam technique and the ability to interpret the more difficult questions.