OCR
A level
Biology A

Mrs P Bamber (Head of Biology)

The Importance of Biology

The Paralympics	Dietetics	MPox
Biochemistry	Fibroblasts	Feet
mRNA	Medicine	Moderna

Biology is now bigger than physics, as measured by the size of budgets, by the size of the workforce, or by the output of major discoveries; and biology is likely to remain the biggest part of science through the twenty-first century.

Freeman Dyson – Theoretical Physicist and mathematician

Introduction to A level Biology

'Biology is my favourite subject, not only is it fascinating, but its importance as a subject is unquestionable. The teachers and support you receive is exceptional and there is no other subject I would rather do' **Year 13 student 2022**

Studying A level Biology at Ecclesbourne

- Popular subject – 2024-2025
- Y13 = 41 students
- Y12 = 60 students
- Experienced staff – Mrs Bamber, Mrs Weller, Mrs Turnbull, Mr Dunker Brown, Miss Piper.
- Well-resourced department with excellent support from Lab technicians.

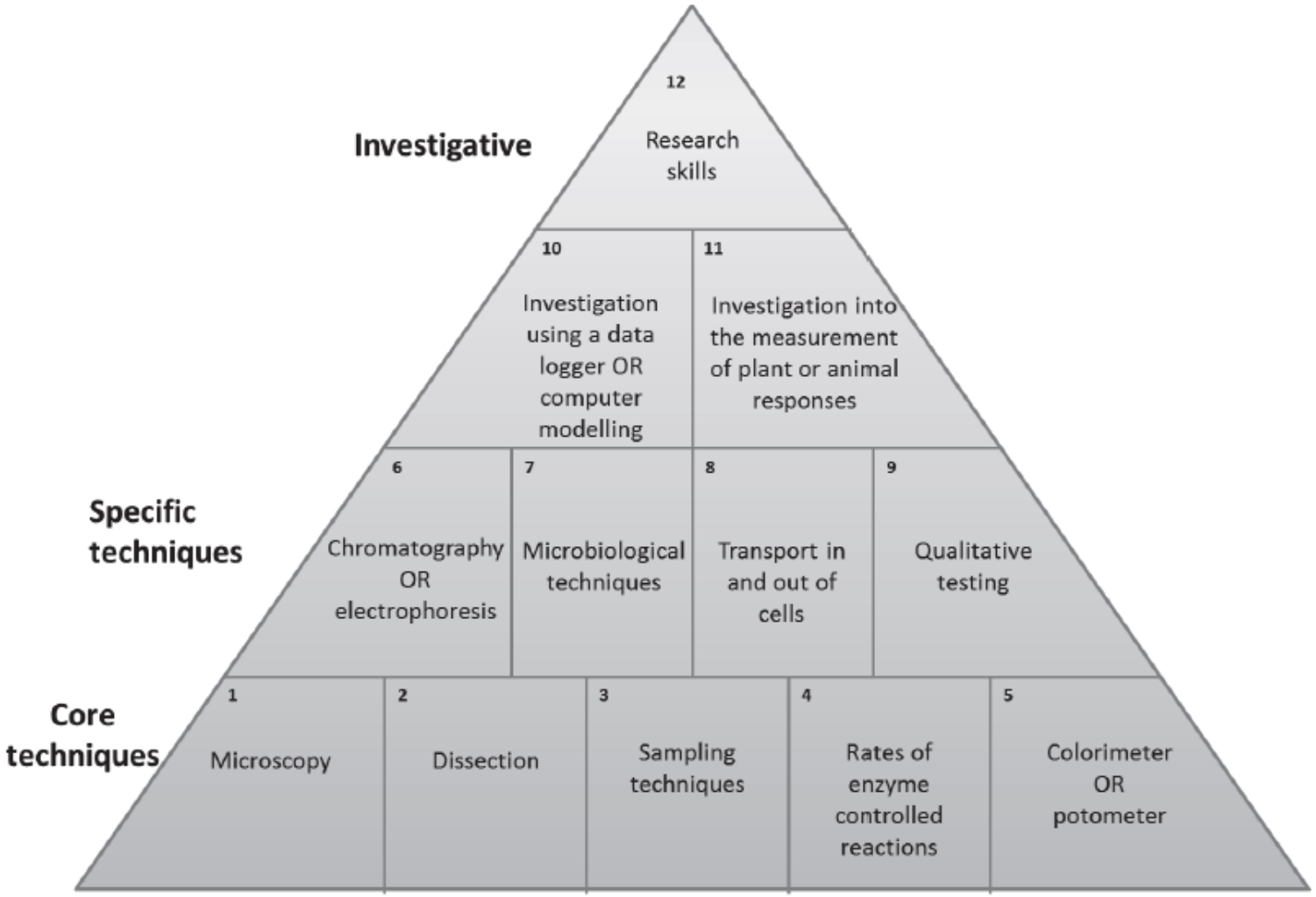
Course Overview Year 1

1. Development of practical skills (Across both years)	2. Foundations in Biology	3. Exchange and Transport	4. Biodiversity, Evolution and Disease
• Planning, implementing, analysis, evaluation and research. • Development of skills in use of specific apparatus and techniques. • These skills are delivered across 12 Practical Activity Groups (PAG)	• Different types of cells (Eukaryotic and Prokaryotic) • Production of new cells through mitosis and meiosis • The internal structure of a cell. • Cell surface membrane • Cell communication • DNA and it's structure • Enzymes and how they work	• Exchange Surfaces • Transport in Animals • Transport in Plants	• Communicable diseases, disease prevention and the immune system • Biodiversity • Classification and Evolution

Course Overview Year 2

1. Development of practical skills (Across both years)	5. Communication, homeostasis and energy	6. Genetics, evolution and ecosystems
• Planning, implementing, analysis, evaluation and research. • Development of skills in use of specific apparatus and techniques. • These skills are delivered across 12 Practical Activity Groups (PAG)	• Communication • Homeostasis • Excretion • Neuronal & hormonal communication • Plant and animal responses • Photosynthesis & respiration	• Cellular control • Patterns of inheritance • Manipulating genomes • Cloning and biotechnology • Ecosystems • Populations and sustainability

Practical work



- The practical component is assessed in the final exam.
- Students also receive a practical endorsement if they show competency in the skills required. The practical endorsement may be given as an entry requirement by Universities.

Structure of year 12 teaching

- 2 teachers for 5 hours per week.
- Lessons typically involve coverage of theory, opportunities for discussion, application of knowledge, problem solving and practical activities.
- Independent study is **vital**.
- Regular topic tests and assessment tasks at key points during the modules – related back to ALIS targets to ensure maximum progression.

Resources for the course

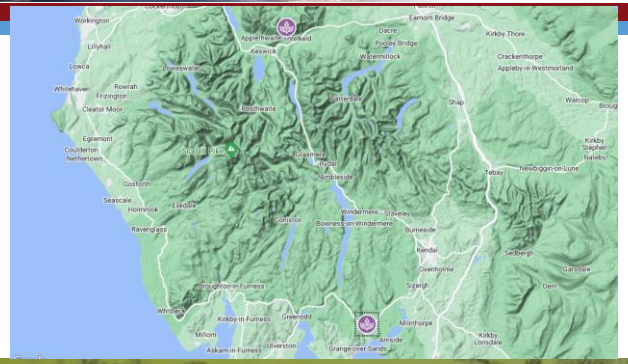
- Students receive an online subscription to Kerboodle to access the A Level course textbook and other learning resources
- Textbooks and revision books for this course will be available for purchase
- Opportunity to subscribe to 'Biological Sciences Review'
- Student Handbook containing a full copy of the specification
- Support on the VLE – electronic textbooks and additional reading materials

Assessment

Component	Marks	Duration	Weighting	Content
Biological processes	100	2 hours 15 minutes	37%	Modules 1,2, 3 and 5
Biological diversity	100	2 hours 15 minutes	37%	Modules 1, 2, 4 and 6
Unified Biology	70	1 hour 30 minutes	26%	Content from all modules
Practical endorsement	-	-	-	-

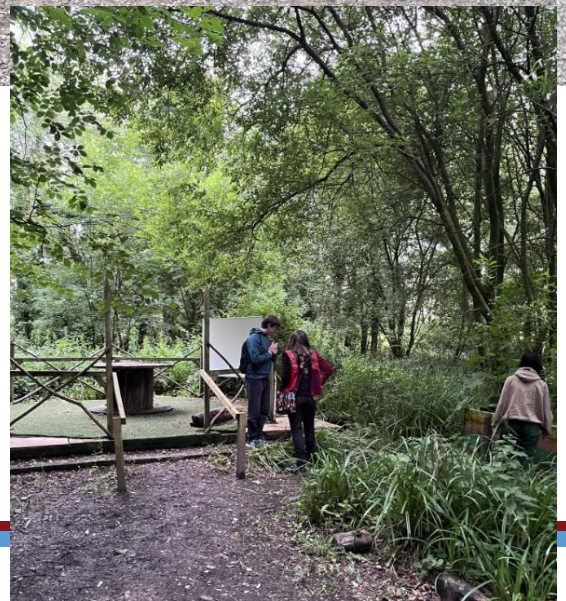
- 3 Written examination papers
- Practical Skills Endorsement through 12 specific practical activities completed throughout the year - Pass/Fail
- Note that this goes **alongside** the A level Biology grade, it has NO impact on the outcome of the grade, however it could *potentially* be required by Higher Education providers.

Residential Field Trip



Consolidate their understanding of the basic principles of ecology and biodiversity, and develop sampling strategies.

Embark on detailed investigations in two contrasting ecosystems through which they will develop practical scientific competencies and maths skills.



Entry requirements

- GCSE Combined Science Trilogy – **2 x Grade 6**
- Separate Science GCSEs – **Grade 6 in Biology** and a grade 6 in either Chemistry **or** Physics
- The increase in the comprehension and the mathematical processing demands of this new specification mean that the entry requirement of grade 5 or higher in English and Maths **must** remain for students to be able to access the course.

Courses at University

- Psychology
- Medicine
- Biosciences
- Neuroscience
- Biomedical Science
- Biochemistry and Molecular cell biology
- Optometry
- Physiotherapy
- Veterinary Medicine

Careers

- Research scientist
- Pharmacologist
- Biologist
- Ecologist
- Nature conservation officer
- Biotechnologist
- Forensic scientist
- Government agency roles
- Science writer
- Teacher

OCR
A level
Biology

Mrs P Turnbull

Head of Biology

If you have any further questions do not hesitate to contact –

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