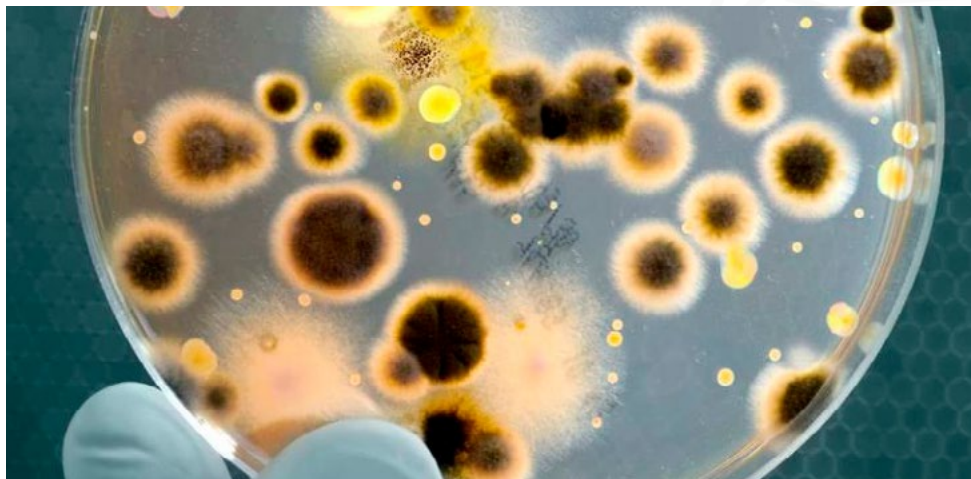




BIOLOGY

**Gordon's
Sixth Form**

A LEVEL



Topics studied

Topic 1: Biological molecules.

Topic 2: Cells.

Topic 3: Organisms exchange substances with their environment.

Topic 4: Genetic information, variation and relationships between organisms.

Topic 5: Energy transfers in and between organisms.

Topic 6: Organisms respond to changes in their internal and external environments.

Topic 7: Genetics, populations, evolution and ecosystems.

Topic 8: The control of gene expression.

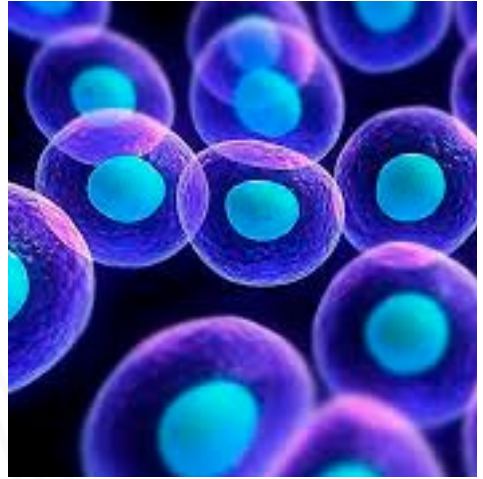
A-level Biology exams

Paper 1 is two hours covering topics 1-4. It consists of a mixture of short and long answer questions. Paper 1 is worth 35% of the A Level.

Paper 2 is two hours covering topics 5-8. It consists of a mixture of short and long answer questions. Paper 2 is worth 35% of the A Level.

Paper 3 is two hours covering topics 1-8. It consists of structured questions, critical data analysis and a 25 mark essay. Paper 3 is worth 30% of the A Level.

Students will complete practical work in their lessons that will be assessed in exams. There are 12 Required Practicals covered in the course.



Why take Biology?

- Are designer babies a reality?
- What is Bluetongue virus and should we be worried?
- Why do we hiccup?
- Why do bruises change colour?
- Can transgenics solve world hunger?
- Why do I have my mother's eyes?
- Have humans stopped evolving?
- Are we destroying the planet?
- What is the problem for peacocks with extra-long feathers?

If you have ever considered any of these questions (or millions like them) Biology might be for you.

Transferable skills

- Practical scientific skills
- Analytical skills
- Problem-solving skills
- Accuracy and attention to detail
- Excellent communication skills
- IT/maths skills

Degrees

- Medicine
- Biomedical science
- Biochemistry
- Neuroscience
- Environmental science
- Sports Science
- Zoology
- Physiotherapy
- Midwifery

Careers

- Doctor
- Vet
- Dentist
- Teacher
- Marine biologist
- Pharmacologist
- Conservation officer
- Research scientist
- Zoologist

Famous Biologists

- David Attenborough
- Chris Packham
- Steve Backshall
- Richard Dawkins

BIOLOGY

HEAD OF DEPARTMENT

Mrs A Beecham

abeecham@gordons.school

Exam Board

AQA

Specification

7402

COURSE DETAILS

Examination

All topics will be examined at the end of Year 13 along with 12 required practicals.

Topic 1: Biological Molecules - carbohydrates, lipids, proteins, nucleic acids and water

Topic 2: Cells - eukaryotic cells, prokaryotic cells, movement across membranes, mitosis and immunology

Topic 3: Organisms exchange substances with their environment - gas exchange, digestion and absorption, mass transport

Topic 4: Genetic information, variation and relationships between organisms - DNA, protein synthesis, diversity and taxonomy

Topic 5: Energy transfers in and between organisms - photosynthesis, respiration, energy and ecosystems and nutrient cycles

Topic 6: Organisms respond to changes in their internal and external environment - nervous coordination, homeostasis and negative feedback

Topic 7: Genetics, populations, evolution and ecosystems - inheritance, populations, evolution and ecology

Topic 8: The control of gene expression - stem cells, epigenetics, cancer, genome projects and gene technology

HOW WILL I BE ASSESSED?

Exam Papers	% of GCE	Details
Paper 1: Topics 1 – 4 2 hours – 91 marks	35%	This paper is made up of 76 marks, a mixture of short and long answer questions, and 15 marks of extended response questions.
Paper 2: Topics 5 – 8 2 hours – 91 marks	35%	This paper is made up of 76 marks, a mixture of short and long answer questions, and 15 marks of comprehension questions.
Paper 3: All 8 Topics 2 hours – 78 marks	30%	This paper is made up of 38 marks of structured questions including practical techniques, 15 marks of critical analysis of experimental data, and 25 marks of one essay from a choice of two titles.

WIDER READING

- Nessa Carey: The Epigenetics Revolution; Junk DNA: A Journey for the Dark Matter of the Genome
- Rachel Carson: Silent Springs
- Richard Dawkins: The Selfish Gene; The Blind Watchmaker; The Greatest Show on Earth
- New Scientist (available in the library or see www.newscientist.com)
- Biological Sciences Review



Gordon's School
West End, Woking
Surrey, GU24 9PT

www.gordons.school
01276 858084