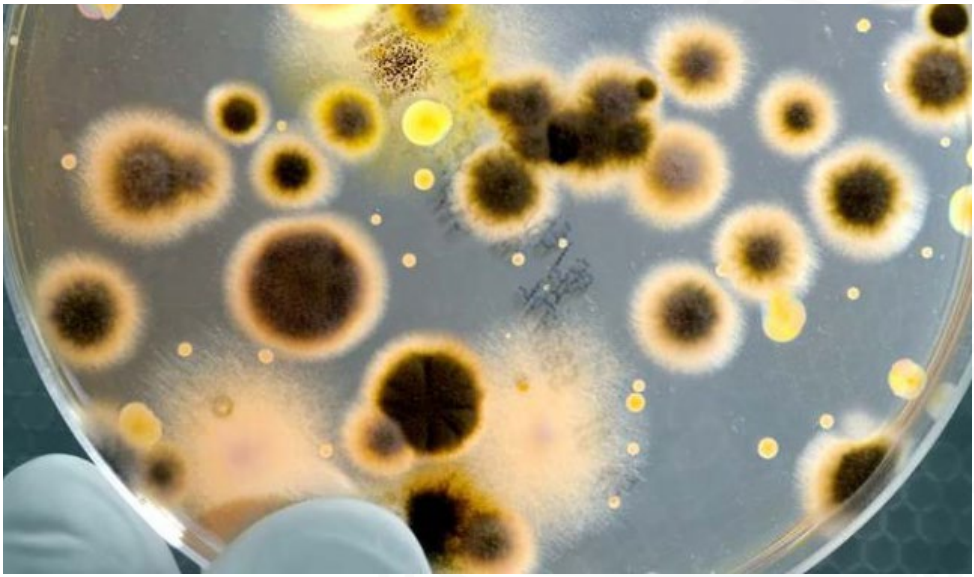
Gordon's Sixth Form

BIOLOGY

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.

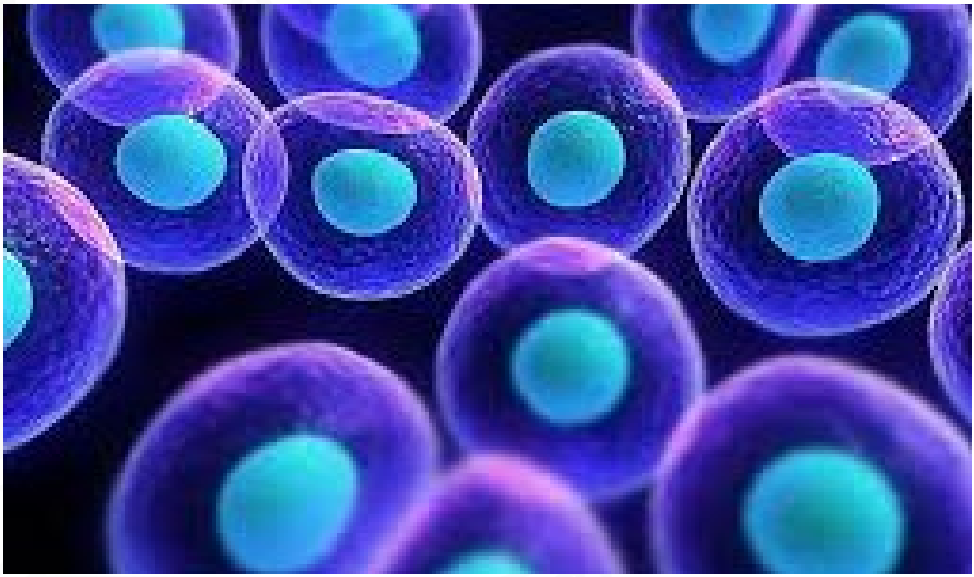
A-LEVEL BIOLOGY EXAMS

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 thre 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

CONTACT DETAILS

Head of Department
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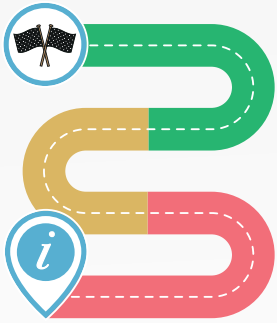
Exam Board
AQA

Specification
7402

CURRICULUM MAP



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

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