Biology

Subject Lead: Miss C Gardener
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Course: AQA A

Key topics covered

Year 12

Unit 1 – Biological molecules – Carbohydrates, DNA, Lipids, Proteins, Water & the bonds between them.
Unit 2 – Cells – Microscope, Cell structure, Immune system, particle Movement & Types of Cells.
Unit 3 – Exchange & Transport – Digestion, Gills, Hearts, Insects, Leaves, Lungs, Roots, etc
Unit 4 – Genes – Biodiversity, Cell division & Genetics.

Year 13

Unit 5 – Energy Transfer – Ecosystem, Photosynthesis & Respiration
Unit 6 – Responses – Homeostasis, Plants and Nerves.
Unit 7 – Genetics – Inheritance, Populations and Speciation.
Unit 8 – Gene Expression – Cloning, Diseases, Genetic fingerprinting.

Recommended Textbook/resources

Textbooks:

- AQA Biology 2nd Edition, ISBN 978-0-019-835177-1: Amazon, Waterstones, Scopay (~£40)
- Maths for A Level Biology, ISBN 9780198428992 – Amazon
- Oxford Revise AQA A level Biology – Scopay (~£10) ISBN - 9781382008631

Useful websites

- Physicsandmathstutor.com
- Save my exams – AQA A Level Biology

Resources

- Scientific Calculator and other GCSE maths equipment

Super-curricular reading.

- The Language of Genes – Matt Ridley
- The Lives of a Cell – Lewis Thomas

Why Study the Subject/what students Like about it

Biology is the study of life! Alongside in-depth knowledge of the biological world, biologists also develop skills and understanding of scientific methods, data analysis, observation, correlations and causal relationships. The study of Biology also helps students to build up skills in research, problem solving, organisation and analytical skills. Given the group project work that occurs throughout the course, students also develop good teamwork and communication skills.

'Biology helped me understand things in a lot more detail than I realised existed. It was a big change from GCSE, with needing to do more of my own back ground work. But I've developed a whole range of Biology jokes and love the courses I've been able to apply to'.

Opportunities outside the classroom

Online and in person access to Alumni talks at UEA.
E.g. Medical careers

Insight days including taster sessions, practical workshops and staff discussions at Outreach UEA.
E.g. DNA fingerprinting

You will take part in the global AMGEN Biotechnology Experience with the University of Hertfordshire.

You will be offered the opportunity to enter into the Biology Olympiad and Intermediate Olympiad.

Potential to enter contests from universities around the country in various formats: video, essay and more.

Future Progression/Career routes

Medicine, pharmacy, zoology, environmental science, psychology, veterinary science, nursing, dentistry, geology, oceanography, physiotherapy, forensic science, teaching, conservation and many more!

