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| **SUBJECT:** | **BIOLOGY** |
| **Title of GCE:** | **A Level Biology** |
| **Exam Board:** | **AQA** |
| **Syllabus Number:** | **7402** |

**Course Overview:**

Biology A-level will give you the skills to make connections and associations with all living things around you. Biology literally means the study of life and if that's not important, what is? Being such a broad topic, you're bound to find a specific area of interest, plus it opens the door to a fantastic range of interesting careers.
Our aim is to encourage a genuine interest and enthusiasm for the study of Biology and potential careers in the subject. This course relates Biology to real world concepts and makes it relevant for you, with a wide range of topics being covered from microbiology, infectious and lifestyle diseases, anatomy, biochemistry, genetics, ecology and much more.

Biological molecules looks closely at different substances that are essential for life, from water through to DNA. Students will look at the structure of the molecules and how this gives rise to beneficial properties. DNA and genetics will be covered in depth, looking at the changes and variation in DNA which gives the vast range of species we see on Earth. It will also look at gene expression and how DNA is converted into proteins.

The ecology units in the course will go into detail on how ourselves, and other organisms, interact with the environment around us. The importance of maintaining ecosystems and the balance of different molecules will be discussed, such as Carbon and Nitrogen. Students will also learn the complex processes of how organisms stay alive, in both photosynthesis and respiration.

Students will develop an understanding of how different areas of Biology relate to each other and how scientific research is undertaken. Practical and investigative skills will be honed during practical activities throughout the course.

The depth and breadth of Biology enables students to develop their capacity for problem solving, following the scientific model and showing that they can understand concepts at a complex level.

Biology, like all sciences, is a practical subject. Throughout the course you will carry out practical activities including using microscopes to see cell division, dissection of animal or plant systems, aseptic technique to study microbial growth, investigating activity within cells,investigating, observing animal behaviours and looking at distributions of species in the environment.
These practicals will give you the skills and confidence needed to investigate the way living things behave and work. It will also ensure that if you choose to study a Biology-based subject at university, you'll have the practical skills needed to carry out successful experiments in your degree.

*"Biology is an incredibly interesting and intriguing subject, where you will find yourself learning things about yourself that you wouldn't even have imagined were possible."*
A level Biology student

**A Level Assessment:**

Paper 1 (2 hours, 35% of A level)
Paper 2 (2 hours, 35% of A level)
Paper 3 (2 hours, 30% of A level, this exam includes 1 essay question)

Papers are assessed on the following topics:
- Biological molecules
- Cells
- Organisms exchange substances with their environment
- Genetic information, variation and relationships between organisms
- Energy transfers between organisms
- The control of gene expression
- Required practicals

**Coursework/Controlled Assessment:**
There is no formal controlled assessment. However, the students have to demonstrate sound practical skills through a series of assessed practical activities to pass the course. At the end of the course successful students will receive an endorsement of practical skills together with their A-level grade.

**Career Opportunities:**
Studying A-level Biology at university gives you all sorts of exciting career options, including:
• Doctor
• Clinical molecular geneticist
• Nature conservation officer
• Pharmacologist
• Research scientist
• Vet
• Secondary school teacher
• Marine biologist
• Dentist
You may decide to enter the world of work after A-level studies, in which case Biology could lead on to Science technician roles in the NHS, or laboratories.

**Possible degree options**
The top seven degree courses taken by students who have an A-level in Biology are Biology, Psychology, Sport and exercise science, Medicine, Anatomy, Physiology and Pathology, Pharmacology, Toxicology and Pharmacy Chemistry.
Many other options are also available such as Zoology, Microbiology, Forensic Science as well as Conservation and Ecology. Biology is also considered to be a facilitating subject; so is regarded highly when applying for any further education course.

**Students who study this subject often complement it with:**
Chemistry, Psychology, BTEC PE, Physics, Geography

**Useful revision websites:**

http://www.s-cool.co.uk/a-level/biology
http://www.biologymad.com/

**For more information or advice contact:**

Ms Strachan-Harvey