Subject:	Biology	Teachers:	RN/SD	Exam Board:	AQA

NEWPORT GIRLS' HIGH SCHOOL KS5 CURRICULUM OVERVIEW

Curriculum Intent & Organisation
This A level provides a comprehensive knowledge of the central concepts required to go forward in any field of biology should students wish to take their studies further.

Examination Information	Facilitating Subject?
Option subject examined end of Year 13 by three examination papers with no coursework	Yes

Impact of Prior Learning from KS4
The AQA GCSE biology course equips students with the scientific investigative and thinking skills required to work at this level. The summer work allows students to start their wider reading on a topic which is of great interest and importance. The summer work allows the teachers to assess the starting level of the students and therefore target future support.

Equipment Required for this course
• Standard classroom stationery • Scientific calculator • Own lined paper

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Curriculum Implementation – Areas of Focus Year 12		
Autumn Term	**Spring Term**	**Summer Term**
• Biological Molecules • Cells - Cell structure - Transport across cell membranes - Cell recognition and the immune system	• Organisms exchange substances with their environment - Exchange - Mass transport in animals • Genetic information, variation and relationships between organisms - DNA, genes and protein synthesis	• Organisms exchange substances with their environment - Mass transport in plants • Genetic information, variation and relationships between organisms - Genetic diversity - Biodiversity

Curriculum Implementation – Areas of Focus Year 13		
Autumn Term	**Spring Term**	**Summer Term**
• Energy transfer in and between organisms - Respiration - Photosynthesis - Energy and ecosystems • Organisms respond to changes in their environments - Response to stimuli	• Organisms respond to changes in their environments - Nervous coordination and muscles - Homeostasis • Genetics, populations, evolution and ecosystems - Inherited change - Populations and evolution - Populations in ecosystems • The control of gene expression - Gene expression - Recombinant DNA technology	

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Impact / Outcomes

Learning will be assessed throughout the course by:

- End of topic assessments
- Weekly exam questions
- Analysis of booklet completion
- Observation of practical work.

Homework / Self Study

Homework will

- Comprise examination questions to ensure familiarity with all the different exam question styles and an appreciation of the detailed level of scientific vocabulary needed.
- Completion of each topic booklet so that depth of detail in the students writing can be assessed.

Independent study time should be used to

- Complete the topic booklets and consolidate learning.
- Learn definitions of all key scientific language.
- Watch videos to consolidate learning.
- Complete activities in the text book supplied for the course.
- Reading around topics. There are a number of appropriate books available for this activity in the biology lab.
- Read New Scientist. There are back copies in school and a current subscription.
- Access the “maths and physics tutor” website and practice additional examination questions.

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Ways to support learning

Students are advised for each topic to watch the relevant video from the following sources

- Bozeman Science
- The Amoeba Sisters
- Ray Cinti
- Crash Course

A letter is issued in September with a list of recommended books, some of which the school can obtain at half price. There are copies in school for students to look at prior to purchasing

Parents can support students by testing them on word definitions or by asking students to explain a concept. Verbalising your science is the best way to learn, parents can then ask questions which makes students process the knowledge further. If students cannot verbally deliver their science knowledge, they will have difficulty writing it down in an examination.

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Field Work / Extension / Enrichment Opportunities

- Students are expected to attend a three day/two-night residential ecology course in Yorkshire which supports the learning of all the ecology content of the specification including the application of all types of statistical analysis.
- A level biology live is a one-day event at Birmingham Town Hall and is a set of five lectures given by leading scientists about their work, for example Professor Robert Winston and his work in the field of IVF. A chief examiner also delivers two sessions giving exam technique advice.
- Students can enter the Intermediate Biology Olympiad which is a national online competition for year 12 students run by the Royal Society for Biology.
- There is an opportunity to apply to complete the Crest Award at gold level, carrying out original research at and under the tutelage of Harper Adams academic staff.

Next Steps

A level biology is a very versatile qualification which apart from allowing entry to the obvious health linked careers has an almost endless list of possible career pathways. Biology is an exciting field to work in given the pace at which our knowledge is currently advancing and as a result there are many new disciplines appearing, for example astro-biology and epigenetics, which will change the way we view life.

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For more information, contact xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx.