



A Level  
**Biology and  
Human Biology**

Available for first teaching  
from September 2008

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### Background to the changes

Following a review of 14–19 education, the Qualifications and Curriculum Authority (QCA) has revised the subject criteria for A Levels. These changes are intended to reduce the volume of marking for teachers, and the amount of assessment for learners – and to ensure that every young person has the opportunity to realise their full potential. Along with all awarding bodies, OCR has developed revised A Levels for first teaching from September 2008.

### We've made sure it's a change for the better

QCA's decision to revise A Levels has given us a great opportunity to make further improvements to our qualifications. We've been talking to teachers, heads of departments, local authority advisers, subject experts and examiners to make sure the new specifications, support materials and schemes of work meet your needs.

# OCR A Level Biology and Human Biology

## The first choice for science

### Biology

The revised specification for this established and very popular OCR qualification builds on its success, but has been redesigned to be clear, logical and comprehensive for teachers and students alike.

### Human Biology

This relatively new specification from OCR is proving very popular. We've designed it to be quite distinct from A Level Biology, and to offer an interesting and relevant path for those students who wish to focus their study of biological science more specifically on the human animal.

This brochure includes information on both specifications.

# A Level Biology

The new specification allows you to adopt a flexible approach to the delivery of AS and A level Biology. The course has been designed to enable you to deliver the units using the framework provided or to design a customised course. This flexible approach is also reflected in the assessment model. In both AS and A2, one unit is deliberately shorter, allowing the realistic possibility of using the January assessment session. Thus centres can adopt either a staged or terminal assessment model. There is also a choice of assessed practical tasks available.

The specification is divided into biological topics, each containing different key concepts of Biology. Once the key features of a biological topic have been developed, applications are considered. For assessment purposes, knowledge and understanding of key concepts are treated separately at AS; important links between different areas of biology are largely assessed synoptically at A2. While the teaching of practical skills may be integrated with the theoretical topics, they are assessed separately. This allows skills to be developed in a way suited to each individual centre.

## **Features of the new specification:**

- The new, streamlined progression through units is appropriate for learners of varying aptitude. It appeals to less experienced teachers and those looking to broaden their repertoire.
- Accessible, logically-grouped learning outcomes help teachers and learners to understand exactly what will be examined. There is full course guidance for the teacher, but with inbuilt flexibility to change the order if required.
- Learners can build on their GCSE knowledge.
- The practical exam has been replaced with task-based assessment to conform to new QCA requirements. The practical tasks, tested before first teaching have comprehensive worksheets and mark schemes, reducing teachers workload.
- Support includes a broad range of resources from our publishing partner, Heinemann.
- Question papers are clear, explicit and accessible.
- 'How Science Works' is integrated throughout, along with up-to-date topics.

# A Level Biology **course details**

## For AS

Teaching units	Assessment method and weighting
<b>F211: Cells, Exchange and Transport</b> <ul style="list-style-type: none"> <li>• Cells</li> <li>• Exchange and Transport.</li> </ul>	<b>Mandatory unit</b> 1 hour written exam AS – 30% A Level – 15%
<b>F212: Molecules, Biodiversity, Food and Health</b> <ul style="list-style-type: none"> <li>• Biological Molecules</li> <li>• Food and Health</li> <li>• Biodiversity and Evolution.</li> </ul>	<b>Mandatory unit</b> 1 hour 45 mins written exam AS – 50% A Level – 25%
<b>F213: Practical Skills in Biology 1</b> Controlled internal assessment of practical skills.	<b>Mandatory unit</b> Internal assessment AS – 20% A level – 10%

## For A2

Teaching units	Assessment method and weighting
<b>F214: Communications, Homeostasis and Energy</b> <ul style="list-style-type: none"> <li>• Communication and Homeostasis</li> <li>• Excretion</li> <li>• Photosynthesis</li> <li>• Respiration.</li> </ul>	<b>Mandatory unit</b> 1 hour 15 mins written exam A Level – 15%
<b>F215: Control, Genomes and Environment</b> <ul style="list-style-type: none"> <li>• Cellular Control</li> <li>• Biotechnology</li> <li>• Ecosystems and Sustainability</li> <li>• Responding to the Environment.</li> </ul>	<b>Mandatory unit</b> 2 hour written exam A Level – 25%
<b>F216: Practical Skills in Biology 2</b> Controlled internal assessment of practical skills.	<b>Mandatory unit</b> Internal assessment A Level – 10%

## What stays the same, and what changes?

If you're already working with the current OCR A Level Biology specification, you'll want to know which parts of this remain in the new specification – and what the main changes are.

The table below outlines the key points.

Main aspects that stay the same	Most important changes
The current specification is the most popular science available. The new, improved specification has a sound and logical continuity for current OCR Biology centres.	Units 1 and 4 have reduced content, allowing the maximum opportunity to enter candidates in January.
	QCA rules now require that practical skills are internally assessed, under controlled conditions. Practical exams will no longer be available in the revised specifications.
	Modern and interesting topics previously offered as options are retained in compulsory content.
	Many new contemporary contents have been introduced throughout the specification.

*"I feel that the OCR course in Biology is very well written. It helps students to achieve their full potential."*

*"Most impressed! I hope we change to the new OCR specs."*

# 'Stretch and Challenge'

A new Qualifications and Curriculum Authority (QCA) initiative for A Levels, 'Stretch and Challenge' is designed to give learners the opportunity to demonstrate their potential, and to help universities differentiate between applicants. It will be part of the A2 units, so it won't involve additional questions or exam papers.

***We have always included 'Stretch and Challenge' style questions at A Level for all sciences so this won't have a noticeable effect on assessment other than that learners will have the opportunity to achieve an A\* grade.***

**'Stretch and Challenge' is achieved through a new approach to exam questions:**

- The questions invite a greater variety of thinking and type of answer. For example, the introduction could ask the learner to 'analyse', 'evaluate' or 'discuss'.
- The questions are structured to show more connections between different sections of the specification.
- Extended writing is encouraged in all subjects (except in areas such as Maths, where it is clearly inappropriate).
- There's a wider range of question types – such as case studies and open-ended questions – rather than just short-answer questions.
- There are more synoptic assessments – exploring connections between different areas and levels of a subject – over and above the superficial links within question types.

***You'll find examples of 'Stretch and Challenge' style questions in your specimen assessment materials.***



# A Level Human Biology

Due regard is given to the importance of plants and micro organisms, particularly in their interactions with humans. Key biological concepts are presented in real-world, work-related contexts. Synoptic links between different areas are stressed, particularly in the A2 units. The specification will also be of interest to those learners who may be focussing on courses such as Physical Education or Health & Social Care.

## **Features of the new specification:**

- Units 1 and 4 are short, allowing candidates to be entered for January exams.
- The new, streamlined progression through units is appropriate for learners of varying aptitude. It appeals to less experienced teachers and those looking to broaden their repertoire.
- Accessible, logically grouped learning outcomes help teachers and learners to understand exactly what will be examined. There is full course guidance for the teacher, but with inbuilt flexibility to change the order if required.
- The practical exam has been replaced with task based assessment to conform to new QCA requirements. The practical tasks, tested before first teaching have comprehensive worksheets and mark schemes, reducing teachers' workload.
- We have retained the highly regarded Extended Investigation at A2.
- Support includes a broad range of resources from our publishing partner, Heinemann.
- 'How Science Works' is integrated throughout, along with up-to-date topics.



# A Level Human Biology **course details**

## For AS

Teaching units	Assessment method and weighting
<b>F221: Molecules, Blood and Gas Exchange</b> <ul style="list-style-type: none"> <li>• Molecules and Blood</li> <li>• Circulatory and Gas Exchange Systems.</li> </ul>	<b>Mandatory unit</b> 1 hour written exam AS – 30% A Level – 15%
<b>F222: Growth, Development and Disease</b> <ul style="list-style-type: none"> <li>• The Developing Cell</li> <li>• The Developing Individual</li> <li>• Infectious Disease</li> <li>• Non-infectious Disease.</li> </ul>	<b>Mandatory unit</b> 1 hour 45 mins written exam AS – 50% A Level – 25%
<b>F223: Practical Skills in Human Biology</b> <ul style="list-style-type: none"> <li>• Internal assessment of practical skills.</li> </ul>	<b>Mandatory unit</b> Internal assessment AS – 20% A level – 10%

## For A2

Teaching units	Assessment method and weighting
<b>F224: Energy, Reproduction and Populations</b> <ul style="list-style-type: none"> <li>• Energy and Respiration</li> <li>• Human Reproduction and Populations.</li> </ul>	<b>Mandatory unit</b> 1 hour 15 mins written exam A Level – 15%
<b>F225: Genetics, Control and Ageing</b> <ul style="list-style-type: none"> <li>• The Genome</li> <li>• The Nervous System</li> <li>• Homeostasis</li> <li>• 'The Third Age'.</li> </ul>	<b>Mandatory unit</b> 2 hour written exam A Level – 25%
<b>F226: Extended Investigation in Human Biology</b> <ul style="list-style-type: none"> <li>• Internal assessment of practical skills.</li> </ul>	<b>Mandatory unit</b> Internal assessment A Level – 10%

## What stays the same, and what changes?

If you're already working with the current OCR A Level Human Biology specification, you'll want to know which parts of this remain in the new specification – and what the main changes are.

The table below outlines the key points.

Main aspects that stay the same	Most important changes
The current specification is the most popular one available. The new, improved specification has a sound and logical continuity for current OCR Human Biology centres.	Units 1 and 4 have reduced content, allowing the maximum opportunity to enter candidates in January.
	QCA rules now require that practical skills are internally assessed, under controlled conditions. Practical exams will no longer be available in the revised specifications.
	The specification content has been updated and revised with more contemporary contexts used.

*"I feel it will be easy to teach, as everything in the course is structured and easy to understand."*



# 'Stretch and Challenge'

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**'Stretch and Challenge' is achieved through a new approach to exam questions:**

- The questions invite a greater variety of thinking and type of answer. For example, the introduction could ask the learner to 'analyse', 'evaluate' or 'discuss'.
- The questions are structured to show more connections between different sections of the specification.
- Extended writing is encouraged in all subjects (except in areas such as Maths, where it is clearly inappropriate).
- There's a wider range of question types – such as case studies and open-ended questions – rather than just short-answer questions.
- There are more synoptic assessments – exploring connections between different areas and levels of a subject – over and above the superficial links within question types.

***You'll find examples of 'Stretch and Challenge' style questions in your specimen assessment materials.***

# Support for A Level Biology and Human Biology teachers

To help you get started with the new A Levels in Biology and Human Biology specifications, OCR will run a number of training courses. We will also provide a range of detailed support materials and resources – some produced by OCR, some by our publishing partners.

## Training

The following INSET courses will be available from September 2007:

### **Get ready – introducing the new A level specifications (first teaching from September 2008)**

These **free** half-day (morning) sessions are designed to give you an overview of the new OCR specifications. They will:

- **Look at the structure of the new specifications**
- **Compare the new specification content with the old, including coursework and ‘Stretch and Challenge’ implications**
- **Discuss the support and resources available from OCR**
- **Summarise the benefits of the OCR specifications.**

### **Get started – towards successful delivery of the new A level specifications (first teaching from September 2008)**

These full-day sessions will give you guidance and support in planning to teach the new AS/A Level specifications.

They will:

- **Give an introduction to the structure and content of the new specifications**
- **Consider approaches to first teaching, and suggest best practice**
- **Look at coursework and ‘Stretch and Challenge’ implications**
- **Review the support and resources available from OCR.**

*This course will have some similarity to the half-day ‘Get ready’ sessions, but will look at the new specifications in more depth, with the emphasis on first teaching*

*Places are allocated on a first come, first served basis – so if you’re interested in attending one of these events, visit [www.ocr.org.uk/training](http://www.ocr.org.uk/training) to find out the dates of the events nearest to you.*

## Support materials

OCR is producing the following materials to help you prepare for the new A Levels in Biology and Human Biology:

### Schemes of Work and Lesson Plans

Schemes of work are being produced for both Biology and Human Biology. For these subjects we have adopted a 'by teachers for teachers' approach to development of the materials. We have been working with teachers from a number of different centres. The centre involved in the materials can be identified by the use of the centre logo in the top right hand corner of all relevant documents.

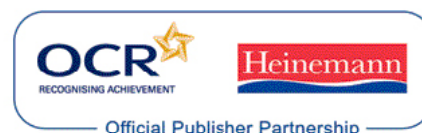
For each scheme of work that is produced, a set of accompanying lesson plans will also be available.

These materials will be available on the OCR website from autumn 2007. The materials will be available in fixed pdf format, for reference purposes, and also in Word format, so that you can adapt the materials for your own use.

### Exemplar Candidate Work

For a number of units within Biology and Human Biology we will produce exemplar candidate work. This will be available on the OCR website in spring 2008.

We're also working with publishing partner Heinemann to provide further resources to support the new specifications. Learner books, teaching resources and assessment for each course will be published in early spring 2008.



## Other OCR science qualifications

As a Biology or Human Biology teacher, you may be interested to know about OCR's range of GCSE science qualifications, as well as the OCR Level 2 Nationals in science subjects, which offer an excellent grounding for progression to GCE Biology.

We also offer GCEs in sciences such as Chemistry A, Chemistry B (Salters), Physics A, Physics B (Advancing Physics), Geology, Electronics and Psychology.

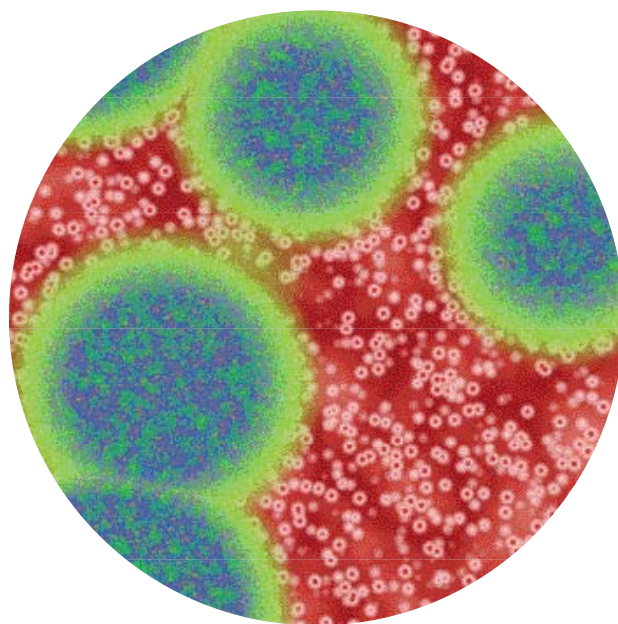
### AS Science

The OCR AS GCE Science specification extends GCSE Science and contains elements of Biology, Chemistry and Physics, as well as Earth Science and Environmental Science. It is purpose-built for those candidates who wish to continue with a broad study of science beyond GCSE, but who choose not to specialise in the separate science disciplines.

### GCE Applied Science

This is a new broad-based qualification in Applied Science which may be used to give a general vocational introduction to science. The qualification provides appropriate progression from GCSE Applied Science (Double Award) and from GCSE Additional Applied Science for candidates wishing to follow a vocational pathway.

For more information on these qualifications, visit [www.ocr.org.uk](http://www.ocr.org.uk)



# Want to find out more?

For more information on the new OCR A Levels in Biology and Human Biology – and on all our science qualifications – visit [www.ocr.org.uk](http://www.ocr.org.uk) or call **01223 553998**

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**[www.ocr.org.uk](http://www.ocr.org.uk)**

OCR customer contact centre

**Vocational qualifications**

Telephone 024 76 851509

Facsimile 024 76 421944

Email [vocational.qualifications@ocr.org.uk](mailto:vocational.qualifications@ocr.org.uk)

**General qualifications**

Telephone 01223 553998

Facsimile 01223 552627

Email [general.qualifications@ocr.org.uk](mailto:general.qualifications@ocr.org.uk)

**OCR**

1 Hills Road, Cambridge CB1 2EU

Telephone 01223 552552

Facsimile 01223 553377



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