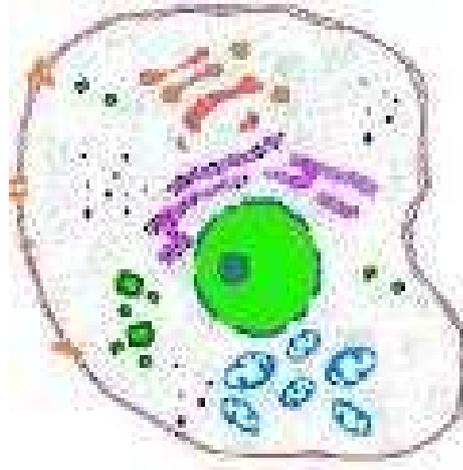


A level Biology at SBE



Handbook and survival guide

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June 2019

An introduction...

Hi, congratulations, great choice!

You have chosen to immerse yourself in a fabulous discipline; a discipline that will enable you to view the world in a different way. Biologists are currently working to solve some of the biggest challenges currently faced by the world population. Biologists are fighting disease, protecting the environment and feeding our growing population. It is a challenge, but if you rise to the challenge you will experience the satisfaction of knowing your world at a more fundamental level and have the tools to work within that world as a more effective and productive global citizen.

So what's in the course?

Subject content

Core content

- 1 Biological molecules
- 2 Cells
- 3 Organisms exchange substances with their environment
- 4 Genetic information, variation and relationships between organisms
- 5 Energy transfers in and between organisms (A-level only)
- 6 Organisms respond to changes in their internal and external environments (A-level only)
- 7 Genetics, populations, evolution and ecosystems (A-level only)
- 8 The control of gene expression (A-level only)

Year 12

Students will take regular topic tests, mock exams and then the AS Biology exam, consisting of two 1 hour 30 minutes papers in May 2020.

They will also be starting the Practical Endorsement (this is awarded separately and is only part of the A level award).

Year 13

Students will continue to take regular topic tests, mock exams and then the A level exam consisting of 3 papers. The Practical Endorsement will be completed.

As well as biological theory, exam papers will consist of:

- At least 15% on knowledge and understanding of practical's.
- At least 10% of the question paper assessment covers mathematical skills (level 2 or above).

Expectations...

Biology is a challenging subject. It is challenging for teachers to ensure that students reach their potential. More importantly for you it is challenging for students to hit their targets. So, here's the plan:

Teachers will:

- Plan and deliver lessons that enable students to access the entire biology specification.
- Organise topic tests, mock exams and other assessment tasks so we can accurately measure your progress against your target.
- Take appropriate action if you are below target.
- Run weekly lunchtime workshops for catch-up and one to one.

Students must:

- Come to lessons on time with a willingness to get as much learning from the lesson as possible.
- Do set homework on time.
- Organise and file your course materials effectively.
- Undertake sufficient independent private study to ensure success in topic test, mock exams and external exams.

Independent private study...

You will hear a lot about independent private study throughout years 12 and 13. The students who do well in their final exams and get the UCAS points they need have learned how to do effective independent private study early in the course. Some learn it later and manage to salvage their grades and scrape through. Some don't.....

How you manage your personal time is under your control, you make the decisions and you must accept the consequences of those decisions.

So what does independent private study mean in Biology 'A' level?

- Do all set homework tasks and hand them in on time.
- Regularly review and add to your class notes.
 - o It must be a regular routine, each lesson, each week, each module.
 - o After each lesson check through your class notes, look in the text book, add extra details to your notes from the text book, create summaries for revision.
- Be honest about self assessment.
 - o You need to know if you've got it – try text book page spread questions, try past paper questions, be realistic about your level of understanding.
 - o Prepare questions for lessons to help fill the gaps in your understanding.
- Make use of all the resources available to you.
 - o Review your class notes.
 - o Use your text book and revision guides.
 - o Use on-line resources.
 - o Ask your teachers questions and take part in discussions.
 - o Come to weekly workshops.
- Revise for exams.
 - o Know when the tests are.
 - o Have up to date notes.
 - o Think about the revision activities that you find most effective (summary notes, diagrams, flash cards etc).
 - o Use past papers and mark schemes.

The web address for the course

<https://www.aqa.org.uk/subjects/science/as-and-a-level/biology-7401-7402>

Exams and revision...

(Based on information within the OCR Chemistry eBook published by Oxford University Press, Sandra Clinton and Emma Poole)

Assessment objectives

Candidates are expected to demonstrate the following in 'A' level Biology:

1. Knowledge with understanding

- Recognise, recall and show understanding of scientific knowledge.
- Select, organise and communicate relevant information in a variety of forms.

2. Application of knowledge and understanding

- Analyse and evaluate scientific knowledge and processes.
- Apply scientific knowledge and processes to unfamiliar situations including those related to issues.

3. How science works

- Demonstrate and describe ethical, safe and skilful practical techniques and processes, selecting appropriate qualitative and quantitative methods.
- Make, record and communicate reliable and valid observations and measurements with appropriate precision and accuracy.
- Analyse, interpret explain and evaluate the methodology, results and impact of their own and others experimental and investigative activities in a variety of ways.

Quality of written communication

It's all very well knowing lots of facts but you need to be able to communicate what you know and get your ideas across to the examiner. You might not think it but the examiner has your interests at the centre of their job – you need to give them the easiest route to maximising your marks.

You should:

- Ensure that text is legible and that spelling, punctuation and grammar are accurate so that meaning is clear.
- Select and use a form and style of writing appropriate to purpose and to complex subject matter.
- Organise information clearly and coherently, using specialist vocabulary where appropriate.

Quality of written communication is assessed across all externally assessed units; if you write clear, well explained answers then you should obtain any marks assigned to it.

Getting down to revision

OK, you're committed to preparing for your examinations! How do you go about it? Remember, there are almost as many ways to revise as there are students revising. Underneath the methods of revising there are some common goals that the revision has to achieve.

1. Boost your confidence

Careful revision will enable you to perform at your best in your examinations. So give yourself the easiest route through the work. Organise the work into small, manageable chunks and set it out in a timetable. Then each time you finish a chunk you can say to yourself 'done it', and then move on to the next one. **And give yourself a reward too!** It's amazing how much of a lift it gives you by working in this way.

2. Be successful

To be successful in 'A' level biology you must be able to:

- Recall information.
- Apply your knowledge to new and unfamiliar situations.
- Carry out precise and accurate experimental work.

- Interpret and analyse both your own experimental data and that of others.

Your revision program

For your revision program you might like to use some or all of the following strategies:

- **Read** through topics one at a time and **try the questions** in the text book.
- Chose a topic and make your own **condensed summary notes**.
- Print or **sketch** then colour important diagrams.
- Highlight key definitions or write them onto **flash cards**.
- Work through facts until you can **recall** them.
- Constantly test your recall by covering up sections and writing them from **memory**.
- Ask your friends and family to **test your recall**.
- Make **posters** for your bedroom walls.
- Use the '**by the end of this spread you should be able to...**' list as a self-test.
- Carry out **exam practice**.
- Work **carefully** through the material on each page.
- Make '**to do**' lists and tick them off.

Whatever strategies you use, measure your revision in terms of progress you are making rather than length of time you have spent working. You will feel much more positive if you are able to say specific things you have achieved at the end of a revision session rather than thinking 'I spent eight hours inside on a sunny day'. Don't sit for extended periods of time. Plan your time so you have regular breaks.

Watch out: revision is an active occupation – just reading information is not enough! You will need to be active in your work for your revision to be successful.

Improving your recall: A good strategy for recalling information is to focus on a small number of facts for five minutes. Copy out the facts repeatedly in silence for five minutes then turn your piece of paper over and write them from memory. If you get any wrong then just write these out for five minutes. Finally test your recall of all the facts. Come back to the same facts later in the day and test yourself again. Then revisit them the next day and again later in the week. By carrying out this process they will become part of you long term memory – you will have learnt them!

Past paper practice: Once you have built up a solid factual knowledge base you need to test it by completing past paper questions. It might be a good idea to tackle several questions on the same topic from a number of papers rather than going through a whole paper at once. This will enable you to identify any weak areas so that you can work on them in more detail. Finally remember to complete some mock exam papers under exam conditions.