



GCSE

Chemistry

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Introduction

Welcome to your GCSE Chemistry course. This introduction will serve as a guide to what you can expect from the course, and it will show you how to plan your study of this course effectively. Take your time to read this Introduction thoroughly before you start the lessons.

The course is designed to prepare students for the **AQA GCSE Chemistry specification (syllabus)**.

The AQA subject code is **4421 GCSE Chemistry**.

Please note that this course has four examined components:

Examination paper Chemistry 1
Examination paper Chemistry 2
Examination paper Chemistry 3 plus

An ISA (see below), which consists of

- An item of practical coursework, *and*
- An examination paper based on the practical work

Full details of these components are given below and during the course.

Please note that a full set of data, including a Periodic Table, will be provided in the examinations for the papers Chemistry 2 and Chemistry 3, **but not Chemistry 1**.



The Course

The course is different from GCSE Chemistry courses of the past in that it attempts to look at the way Chemistry affects your everyday life and how you can evaluate the scientific material that you come across in newspapers, magazines and on television. The course is ideal preparation for those who wish to go on to study Chemistry at AS and A2 level.

If you have some background in Chemistry then you will find some of the lessons touch upon things that you have encountered before, but the course is designed to be fully understandable by those who have little or no previous background in science.

Arrangement of Lessons

The lessons are planned so that material for the four examination papers is covered by the four modules of the course:

1. Chemistry 1
2. Chemistry 2
3. Chemistry 3
4. Science Skills

You should note that the fourth module is common to examinations for GCSE Biology and GCSE Physics. If you are doing more than one of these courses with Oxford Open Learning then you will find that this material is found in all three courses, with the exception of TMA J, which is different, so you will need to send separate TMAs to each of your tutors for science subjects.

You should do the three main Chemistry modules in order but the Science Skills module can be completed whenever you like; this *must* be before you start on your practical assessment (see below).

Textbook

The textbook that is referred to throughout this course is

AQA GCSE Chemistry
Patrick Fullick – Nelson Thornes – ISBN 978-0748796441.

You will need a copy of *AQA GCSE Chemistry* throughout the course; you can buy a copy through the Oxford Open

Learning website. It is referred to in almost every lesson and provides excellent coverage of the material. By using the textbook and the course you will have very full coverage of all the material.

You should not need other books throughout the course but you may like to look in other science books from time to time. If you feel that you would like to use a revision guide before the examination you should ask your tutor which one they recommend.

Lesson Contents and Textbook References

Chemistry Module 1		
<i>Lesson</i>	<i>Title</i>	<i>Fullick Reference</i>
1	What the World is made of	C1.1
2	Using Metals	C1.2
3	Obtaining Metals / TMA A	C1.2
4	Oils and Fuels	C1.3
5	Making Things from Oil	C.1.4
6	Making Things from Plants/ TMA B	C.1.5
7	Changes in the Earth/ TMA C	C1.6

Chemistry Module 2		
<i>Lesson</i>	<i>Title</i>	<i>Fullick Reference</i>
8	Bonding	C2.1
9	Structures / TMA D	C2.2
10	Chemical Calculations 1	C2.3
11	Chemical Calculations 2	C2.3
12	Rate of Reactions/ TMA E	C2.4

13	Energy and Reactions 1	C2.5
14	Ions and Solutions / TMA F	C2.6 – C2.7

Chemistry Module 3

<i>Lesson</i>	<i>Title</i>	<i>Fullick Reference</i>
15	The Periodic Table	C3.1
16	Trends and Patterns	C3.1
17	Acids and Alkalis / TMA G	C3.2
18	Water	C3.3
19	Energy and Reactions 2	C3.4
20	Analysis TMA H	C3.5

Science Skills

<i>Lesson</i>	<i>Title</i>	<i>Fullick Reference</i>
21	What is Science All About?	H1
22	Can we Believe Scientists? / TMA I	H8 and H9
23	Investigating and Observing	H3 and H4
24	Gathering Data	H5, H6 and H7
25	Coursework / TMA J	-
26	Your Practice ISA Test	-
Appendices	Chemistry Data/Glossary/More on ISAs	-

Internet Resources

In each lesson of the course, internet sites are given which have been carefully selected to illustrate points in the course and to provide additional activities. These are an important tool in your understanding of your Chemistry course and you should make every effort to view them and carry out the activities that they contain. If you do not have an internet

connection at home, consider making regular trips to a library or internet café as part of your study schedule.

The Structure within each Lesson: how to study

Front Page

The front page of each lesson shows:


- The title.
- **Aim(s)** for the lesson. These set out the position that you should reach after working through the lesson; keep these in mind while reading the lesson material.
- **Context.** This gives a very brief summary and shows how the lesson fits in with the rest of the course.
- **Reading.** The individual references for each lesson.

Lesson Notes

There then follow the notes; these are an outline of the subject material to be studied in the lesson. Read the notes carefully several times until you feel that you have understood the broad outline of the theory involved, and then tackle the reading references. The textbook may deal with the subjects in greater detail, and, as with the notes, you will probably need to read the passages several times.

Activities

Most activities in the course are placed in the notes at the relevant point. Activities are indicated as follows:

Activity 7	Investigate how a nucleus is held together, particularly how the binding energy of the nucleus relates to Einstein's equation $E = mc^2$.
	

The pencil symbol indicates that you should make your own notes in the space provided.

Self-Assessment Tests

When you feel that you have mastered the topics and completed the activities, tackle the practice tests, which are at the end of every lesson that does not contain a tutor-marked assessment.

Tutor-marked Assignments

After every three or four lessons there is a tutor-marked assignment. These are in GCSE examination style and should be carried out under timed conditions to give you examination practice. These tests will thoroughly check your understanding of the previous few topics. You should send your answers to these tests to your tutor, who will return your marked script, together with a set of suggested answers.

Revision

Do **not** leave all your revision until the end of the course. You will need to revise thoroughly for your examination, but frequent revision throughout the course is **essential**. Plan your revision sensibly, and re-read as you feel necessary, if your knowledge is beginning to fade.

Coursework

You will need to discuss the coursework with your tutor once you have made a start on the course. AQA will specify the topic that you will be working on. Do not start the coursework before discussing it with your tutor.

You should not need too much in the way of specialist equipment for your coursework; it requires mainly items that you can find in the kitchen.

Checking the Syllabus

As you know, this course has been written to cover the contents of the **AQA syllabus 4421** which is available to download (you will need an Adobe Acrobat reader on your computer) at:

www.aqa.org.uk

You should read the syllabus throughout the course, so either keep a copy on your computer or print it out. If you do not have access to the internet, the syllabus is available from:

AQA Logistics Centre (Manchester)
Unit 2, Wheel Forge Way,
Ashburton Park, Trafford Park,
Manchester
M17 1EH

Past Papers

AQA now makes all (but the very last set) of past papers available online for free download at:

www.aqa.org.uk

Discuss with your tutor how to approach these.

A Choice of AQA Exams

Within the individual **Biology, Chemistry** and **Physics** specifications, AQA offers an **alternative Paper 1**. Candidates can take a 45 minute short-answer paper *or* they can tackle *two* (30 minute) objective (multiple choice) tests instead. These are Papers 1a and 1b. If so, candidates can *either* do the new objective tests on paper *or* on screen. They can do (or re-do) them in November, March *and* June. Nonetheless, OOL recommends sticking to the 45 minute short-answer paper (but please note that this can only be taken in January or June).

Your Tutor

You have a lot of resources to help you in your studies; your course file, textbook, internet resources and your tutor. You should make good use of your tutor to help you with any difficulties that you may have during the course.

And finally... very good luck with your studies.