

Switching to OCR A from Eduqas

Introduction

We are really excited about our GCE Chemistry A qualification. Whether taking on the AS Level or the full A Level, this fantastic course is a great qualification for those with an interest in the subject. Why choose Chemistry A?

- Building on our existing popular course, the specification was updated in consultation with teachers, higher education, learned societies and industry.
- The 'Big Ideas' of chemistry are arranged in topics that underpin the knowledge and understanding needed for the next generation of chemists.
- Chemistry A is enjoyable to teach and learn, giving learners the essentials for chemistry-related higher education courses as well as many transferable, marketable skills.
- The chemical topics are presented in a clear and logical linear order, with maths and How Science Work opportunities clearly highlighted, allowing you flexibility in how to approach the teaching.
- There are many highlighted opportunities for hands-on practical work, linking to our flexible practical assessment model.

Textbook comparison

We have not included a textbook comparison in this switching document as there are a number of textbooks available for each exam board's qualifications, and the order and organisation of content within these textbooks can vary. However, similarities in content across exam boards mean that it is possible to use any textbook for the core content of any board's qualifications. The specification can be used to identify relevant content, as well as that which is not required for a specific qualification. If you need further clarification on any specific content, you can email our Subject Advisor team at science@ocr.org.uk.

Support from OCR

We offer a range of support to teachers of our qualifications. This includes:

- A dedicated Subject Advisor team, with teaching and assessment experience, available to answer your queries and support your delivery of our qualifications. You can contact us by email at science@ocr.org.uk or by phone on 01223 553998.
- Monthly newsletters highlighting new resources, CPD courses, and other news about our qualifications.
- An online scheme of work builder which helps you create a bespoke scheme of work using the extensive range of resources we have provided for each specification.
- A wide range of support materials, including handbooks covering practical and mathematical skills, delivery guides, lesson elements, practical activity suggestions, candidate exemplar resources, and more.
- Free access to ExamBuilder, our mock assessment service that allows you to create your own bespoke assessments.
- Termly regional Science Teacher Networks, giving you the opportunity to meet with other teachers and our Subject Advisors.
- CPD courses, including courses for teachers new to teaching our qualifications and courses on outcomes from previous examination series to help inform your teaching.
- You can also follow and interact with our Subject Advisors on Twitter ([@ocr_science](https://twitter.com/ocr_science)).

Key differences

OCR Chemistry A (H032/H432)	Eduqas (B410QA/A410QS)
Practical skills take centre stage , detailed in full at the start of the specification in a separate module for clarity and prominence	Specified practical activities listed in the specification
Flexible practical assessment that allows you to use your own practical activities or select from our range of fully-detailed suggested activities.	A core set of 24 specified practical activities.
Extensive support for mathematical skills development , with linking of skills in the specification and a dedicated Mathematical Skills Handbook.	Linking of mathematical skills at sub-topic level.
Fewer marks in the AS and A Level assessments , giving learners more time to develop their answers. (AS 140 marks in 180 minutes; A Level 270 marks in 360 minutes)	20 more marks in AS Level (180 minutes) and 30 more marks in A Level (375 minutes) compared to OCR Chemistry A.

Content

The content within the [OCR Chemistry A specification](#) covers the key concepts of chemistry and will be very familiar. We've laid it out to support the co-teaching of the AS and A level and provide a logical linear progression through the A level.

OCR Chemistry A (H032/H432)	Eduqas (B410QA/A410QS) (* – topic is split)
<p>Module 1: Development of practical skills in chemistry</p> <p>Practical skills assessed in a written examination and Practical skills assessed in the practical endorsement</p>	<p>The same practical skills, as mandated by the DfE, are listed in Appendix A and B of the Eduqas specification.</p>
<p>Module 2 – Foundations in chemistry</p> <p>Atoms, compounds, molecules and equations Amount of substance Acid–base and redox reactions Electrons, bonding and structure</p>	<p>C1.1 Formulae and equations C1.2 Basic ideas about atoms C1.3 Chemical calculations C1.4 Bonding C1.5 Solid structures* C2.1 Simple equilibria and acid-base reactions* PI1.1 Redox and standard electrode potential* PI5.2 Acid-base equilibria*</p>
<p>Module 3 – Periodic table and energy</p> <p>The periodic table and periodicity Group 2 and the halogens Qualitative analysis Enthalpy changes Reaction rates and equilibrium (qualitative)</p>	<p>C1.5 Solid structures* C1.6 The Periodic Table C2.1 Simple equilibria and acid-base reactions* C2.2 Thermochemistry C2.3 Rates of reaction* PI2.1 Chemistry of the p-block PI5.1 Equilibrium constants*</p>

OCR Chemistry A (H032/H432)	Eduqas (B410QA/A410QS) (* – topic is split)
<p>Module 4 – Core organic chemistry</p> <p>Basic concepts Hydrocarbons Alcohols and haloalkanes Organic synthesis Analytical techniques (IR and MS)</p>	<p>C3.1 Organic compounds C3.2 Hydrocarbons C3.3 Halogenoalkanes C3.4 Alcohols and carboxylic acids* C3.5 Instrumental analysis* OA1.1 Stereoisomerism* OA2.1 Alcohols and phenols*</p>
<p>Module 5 – Physical chemistry and transition elements</p> <p>Reaction rates and equilibrium (quantitative) pH and buffers Enthalpy, entropy and free energy Redox and electrode potential Transition elements</p>	<p>C2.3 Rates of reaction* PI1.1 Redox and standard electrode potential* PI1.2 Redox reactions PI2.2 Chemistry of the d-block transition metals PI3 Chemical kinetics PI4.1 Enthalpy changes for solids and solutions PI4.2 Entropy and feasibility of reactions PI5.1 Equilibrium constants* PI5.2 Acid-base equilibria*</p>
<p>Module 6: Organic chemistry and analysis</p> <p>Aromatic compounds Carbonyl compounds Carboxylic acids and esters Nitrogen compounds Polymers Organic synthesis Chromatography and spectroscopy (NMR)</p>	<p>C2.4 The wider impact of chemistry C3.4 Alcohols and carboxylic acids* C3.5 Instrumental analysis* OA1.1 Stereoisomerism* OA1.2 Aromaticity OA2.1 Alcohols and phenols* OA2.2 Aldehydes and ketones OA2.3 Carboxylic acids and their derivatives OA3.1 Amines OA3.2 Amino acids, peptides and proteins OA4 Organic synthesis and analysis</p>

OCR Chemistry A (H032/H432)	Eduqas (B410QA/A410QS) (* – topic is split)
<p>Appendix 5e: Mathematical requirements</p> <p>Arithmetic and numerical computation Handling data Algebra Graphs Geometry and trigonometry</p>	<p>Appendix C: Mathematical requirements and exemplifications</p> <p>Arithmetic and numerical computation Handling data Algebra Graphs Geometry and trigonometry</p>

Content in OCR Chemistry A not in Eduqas Chemistry:

- fragmentation patterns in mass spectrometry
- global warming and greenhouse gases
- halogens electronegativity trend
- stereoisomerism in transition metal complexes
- ligand substitution reactions in the transport of oxygen
- addition of ammonia to metal hydroxide precipitates
- formation of carboxylic acids from acyl chlorides
- formation of bromoalkanes from alcohols
- reactions of carboxylic acids with metals
- Friedel-Crafts acylation
- ester hydrolysis
- ozone depletion
- reaction of phenols with dilute nitric acid
- mechanism of formation of alcohols from carbonyl reduction
- recognising and naming acid anhydrides
- environmental consequences of plastic disposal
- predicting substitution products of aromatic reactions using directing effects
- constructing Born-Haber cycles
- equations to show the breakdown of ozone
- compromises for equilibrium conditions
- effect of changing concentration on the value of K_c/K_p

Content in Eduqas Chemistry not in OCR Chemistry A:

- column chromatography
- s-block metal flame colours
- trends in the stabilities of group 2 carbonates
- reactions of halides with sulfuric acid
- origin of colour in transition metal complexes
- reaction of alcohols with hydrochloric acid
- formation of amides from amines
- decarboxylation
- formation of aromatic carboxylic acids by oxidation
- fermentation
- formation of alkenes from haloalkanes
- testing for phenols with iron(III) chloride
- formation of esters from phenols
- testing for methyl carbonyl groups
- recognising and naming acyl chlorides
- using plane-polarised light to distinguish between optical isomers
- proteins and protein hydrolysis
- protein structures
- properties and uses of phenol
- synthesis of azo dyes

Please note: the original specifications should be used as the definitive source of qualification content.

Assessment – AS Level

OCR Chemistry A (H032)	Eduqas (B410QA)
<p>AS Paper 1: Breadth in chemistry Modules 1–4 70 marks, 50% of AS Level Written paper – 1 hour 30 minutes</p> <p>Section A: multiple choice questions, 20 marks. Section B: short answer question styles (structured questions, problem solving, calculations, practical) and extended response questions, 50 marks.</p>	<p>AS Paper 1: The language of chemistry, structure of matter and simple reactions: Sections C1.1-C1.7 80 marks , 50% of AS Level Written paper – 1 hour 30 minutes</p> <p>Section A: short answer questions, 10 marks. Section B: structured and extended answer questions set in a range of contexts, 70 marks.</p>
<p>AS Paper 2: Depth in chemistry Modules 1–4 70 marks, 50% of AS Level Written paper – 1 hour 30 minutes</p> <p>Includes short answer (structured questions, problem solving, calculations, practical) and extended response questions, including those marked using Level of Response mark schemes.</p>	<p>AS Paper 2: Energy, Rate and Chemistry of Carbon Compounds 80 marks, 50% of AS Level Written paper – 1 hour 30 minutes</p> <p>Section A: short answer questions, 10 marks. Section B: structured and extended answer questions set in a range of contexts, 70 marks.</p>

Assessment – A Level

OCR Chemistry A (H432)	Eduqas (A410QS)
<p>A Level Paper 1: Periodic table, elements and physical chemistry Modules 1, 2, 3 & 5 100 marks, 37% of A Level Written paper – 2 hours 15 minutes</p> <p>Section A: multiple choice questions, 15 marks.</p> <p>Section B: short answer question styles (structured questions, problem solving, calculations, practical) and extended response questions, 85 marks.</p>	<p>A Level Paper 1: Physical and Inorganic Chemistry: Sections C1–C3 and PI1–PI5 120 marks, 40% of A Level Written paper – 2 hours 30 minutes</p> <p>Section A: Short answer questions, 15 marks.</p> <p>Section B: structured and extended answer questions set in a range of theoretical, practical and other contexts</p>
<p>A Level Paper 2: Synthesis and analytical techniques, Modules 1, 2, 4 & 6 100 marks, 37% of A Level Written paper – 2 hours 15 minutes</p> <p>Section A: multiple choice questions, 15 marks.</p> <p>Section B: includes short answer question styles (structured questions, problem solving, calculations, practical) and extended response questions, 85 marks.</p>	<p>A Level Paper 2: Organic Chemistry and Analysis: Sections C1–C3 and OA1-OA4 120 marks, 40% of A Level Written paper – 2 hours 30 minutes</p> <p>Section A: Short answer questions, 15 marks.</p> <p>Section B: structured and extended answer questions set in a range of theoretical, practical and other contexts</p>
<p>A Level Paper 3: Unified chemistry Modules 1–6 70 marks, 26% of A Level Written paper – 1 hour 30 minutes</p> <p>Includes short answer (structured questions, problem solving, calculations, practical) and</p>	<p>A Level Paper 3: Chemistry in Practice: All sections 60 marks, 20% of A Level Written paper – 1 hours 15 minutes</p> <p>Structured and extended answer questions with an emphasis on practical contexts and</p>

OCR Chemistry A (H432)	Eduqas (A410QS)
extended response questions.	applications.
Practical Endorsement in chemistry Separately reported non-exam assessment, with candidates demonstrating competence in a range of skills and techniques, in a minimum of 12 assessed practical activities. Teacher assessment against the Common Practical Assessment Criteria.	Practical Endorsement in chemistry Separately reported non-exam assessment, with candidates demonstrating competence in a range of skills and techniques, in a minimum of 12 assessed practical activities. Teacher assessment against the Common Practical Assessment Criteria.

Want to switch to OCR?

If you're an OCR-approved centre, all you need to do is download the specification and start teaching.

Your exams officer can complete an [expression of interest form](#) which enables us to provide appropriate support to them. When you're ready to enter your students, you just need to speak to your exams officer to:

1. Make estimated entries by 10 October so we can send you any early release materials, prepare the question papers and ensure we've got enough examiners.
2. Make final entries by 21 February

If you are not already an OCR-approved centre please refer your exams officer to the [centre approval section](#) of our admin guide.

Practical Endorsement Administration (A Level only)

The requirements for the Practical Endorsement have been set by the Department for Education and Ofqual working with all awarding bodies to ensure a common approach. Just as when following the Eduqas A Level Chemistry qualification, your A Level learners studying OCR Chemistry A will need to demonstrate to you, their teacher(s), that they are competent in each of the skills and techniques defined for A Level chemists, and are consistently and routinely demonstrating competence against the Common Practical Assessment Criteria (CPAC).

You will need to:

- Keep records of carrying out practical activities as well as your assessment of competence of each of your learners in each of these skills and techniques. This can be done using our popular [OCR PAG tracker spreadsheet](#). Centres have found the tracker helpful and easy to use, and updated, improved versions have been available since September 2016.
- Designate a 'Lead Teacher' who will need to make sure that they have completed the [online Lead Teacher training](#)
- Email us at science@ocr.org.uk to let us know you've started teaching the qualification. This will make sure we have up-to-date information on your centre for planning monitoring visits. When a monitoring visit takes place at your centre for Chemistry it will be carried out by an OCR-appointed monitor applying the criteria

agreed across all awarding organisations. Up-to-date details on the monitoring process are available on the [Positive about practical](#) page.

Learners need to keep records of their practical work, which can be done in whatever format best suits you and your learners, be it a lab book, a loose leaf folder or an electronic record. Help, guidance and training are available from our [Positive about practical page](#).

Next steps

1. Familiarise yourself with the specification, sample assessment materials and teaching resources on the [OCR Chemistry A](#) qualification page (Assessment Preparation) of the OCR website.
2. Browse the [online delivery guides](#) for teaching ideas and use the [Scheme of work builder](#) to create your personal scheme of work.
3. [Get a login](#) for our secure extranet, [Interchange](#) – allows you to access the latest past/practice papers and use our results analysis service, [Active Results](#).
4. Sign up to receive [subject updates](#) by email.
5. Sign up to attend a [training event](#) or take part in webinars on specific topics running throughout the year or our Q&A webinar sessions every half term.
6. Attend one of our free teacher network events that are run in each English region every term. These are hosted at the end of the school day in a school or college, with teachers sharing good practice and Subject Advisors on hand to lead discussion and answer questions.
7. Follow us on Twitter ([@ocr_science](#)) where you can have discussions with other teachers and OCR Subject Advisors, and where new resources are developed and posted first.