



URSULINE HIGH SCHOOL
& WIMBLEDON COLLEGE
SIXTH FORM

CHEMISTRY

at Ursuline High School

LEVEL: A2

EXAMINATION BOARD: AQA

SPECIFICATION NUMBERS: 7404 (AS); 7405 (A2)

SEPTEMBER 2021

URSULINE HIGH SCHOOL
CRESCENT ROAD
WIMBLEDON
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**Deputy Headteacher and Assistant Headteacher Key Stage 5:
Mr Didier Adam & Mr Ben Barton**

WHAT WILL I STUDY IN THIS SUBJECT?

Year 1

In the first unit, students will study Physical and Inorganic Chemistry

- Atomic Structure, Bonding and Structure and the different types of intermolecular bonding
- Calculations using moles
- Patterns of Reactions of Halogens and Alkaline Earth Metals
- Equilibrium and energy changes in chemical reactions.
- Kinetics

In the second unit, they will study Organic chemistry

- Naming and drawing isomers of Alkanes, Alkenes and other functional groups
- Reactions of Alkanes, Alkenes, Alcohols, and HalogenoAlkanes
- Use of InfraRed Spectroscopy and Mass Spectroscopy to identify Organic Compounds

Year 2

The first Unit builds on work from the first AS unit and students will look at

- Quantitative Equilibria
- Thermodynamics
- Acids and Bases
- Chemistry of Transition Metals and Electrochemistry

The second unit builds on work from the second AS unit and students will study

- Reactions of amines, aromatic compounds and esters
- Polymers, proteins and enzymes.
- The use of modern analytical techniques to deduce the structure of a compound.
- Quantitative Kinetics

The third unit will assess any content from the previous two

WHAT SKILLS AND INTERESTS DO I NEED FOR THIS SUBJECT?

Logical thinking!

Practical ability

Awareness of current issues in science (ie. Reading and research)

Note taking

ICT skills

A passion for science and learning

HOW WILL I BE ASSESSED?

Unit	Mode	Assessment	Weighting
1(A2)	Unit 1	External - structured questions	35%
2(A2)	Unit 2	External - structured questions	35%
3(A2)	Unit 3	External - a mixture of structured questions and multiple choice questions	30%

COURSEWORK A2

A-level grades will be based only on marks from written exams. A separate endorsement of practical skills will be taken alongside the A-level. This will be assessed by teachers and will be based on direct observation of students' competency in a range of skills that are not assessable in written exams.

FIELDWORK/TRIPS

Students have visited a brewery to study the broad principles of chemistry in an industrial context.

WHAT OTHER SUBJECTS COMBINE WELL WITH THIS SUBJECT?

Subject title

Mathematics

Biology

Physics

Art

Textiles

Geography

TO WHAT FURTHER OR HIGHER EDUCATION COURSES COULD THIS SUBJECT LEAD?

à Chemistry

à Biochemistry

à Biology

à Physics

à Chemical Engineering/Engineering

à Medicine, Pharmacy, Dentistry.

WHAT CAREERS COULD THIS SUBJECT LEAD TO?

à Medical Doctor

à Dentist

à Chemist

à Pharmacist

à Biologist

à Research Scientist

RECOMMENDED READING:

P.W. Atkins, *Atkins' Molecules*, Cambridge, 2003 .

P. Le Couteur and J. Burreson, *Napoleon's Buttons: How 17 Molecules Changed History*.

J. Emsley, *The Elements of Murder; the History of Poisons*, OUP, 2005.

Primo Levi, *The Periodic Table*, Everyman's Library, 1995.

USEFUL LINKS:

You will find useful notes at <http://www.revisionworld.co.uk/level-revision/chemistry>

or <http://www.chemguide.co.uk/>

Quizzes to test your knowledge: http://www.docbrown.info/page19/AQA_GCE_chem_AS_2015.htm

Information on Careers in Chemistry from the Royal Society of Chemistry: <http://www.rsc.org/careers/future/options-16>

ENTRY CRITERIA

Please refer to the Entry Criteria Insert to understand the Pathway requirements.

The entry criteria for this subject is: Grade 6 in Chemistry OR Grade 7 in Combined Science, AND Grade 6 in Maths