



Chemistry department

R Frankis

Head of Chemistry



How has chemistry already changed the world?

Chemistry is part of our everyday life, it...

- Keeps us warm through increasingly efficient fuels and insulating materials.
- Feeds you through better fertilisers for growing food and refrigerants to store them.
- Treats you with drug synthesis and pharmacology.
- Keeps you safe with ultra-hard alloys and resistant polyamides.
- Connects us through longer lasting batteries.

Why study chemistry?

- Many of the challenges facing today's society will be overcome with the help of chemical scientists.
- Chemistry is sometimes called the central science because it bridges other natural sciences, including physics, geology and biology.
- Chemistry is an exciting and challenging subject and it can open the door to university courses that can lead to significant personal rewards.

Why study chemistry?

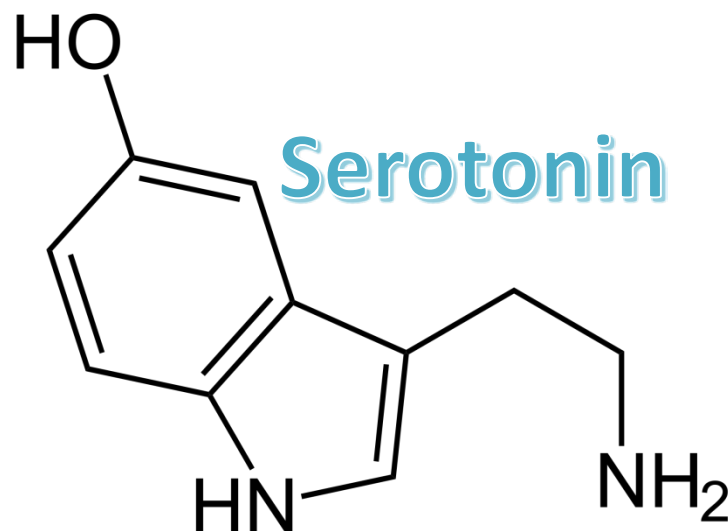
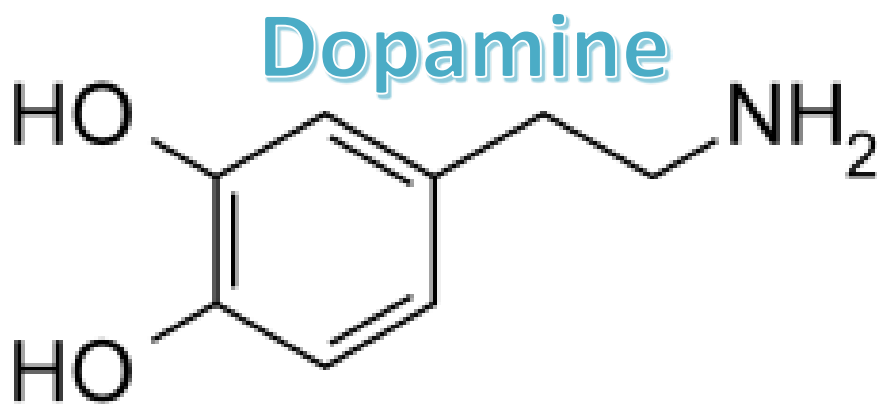
Studying chemistry will help to improve many of your skills including:

- numeracy;
- problem-solving;
- data handling;
- analysis;
- observation;
- team working;
- report writing;
- laboratory skills.

These are highly valued by employers and universities and can open the doors to a huge range of jobs, higher level and university courses.

Why study Chemistry?

Chemistry underpins our everyday existence



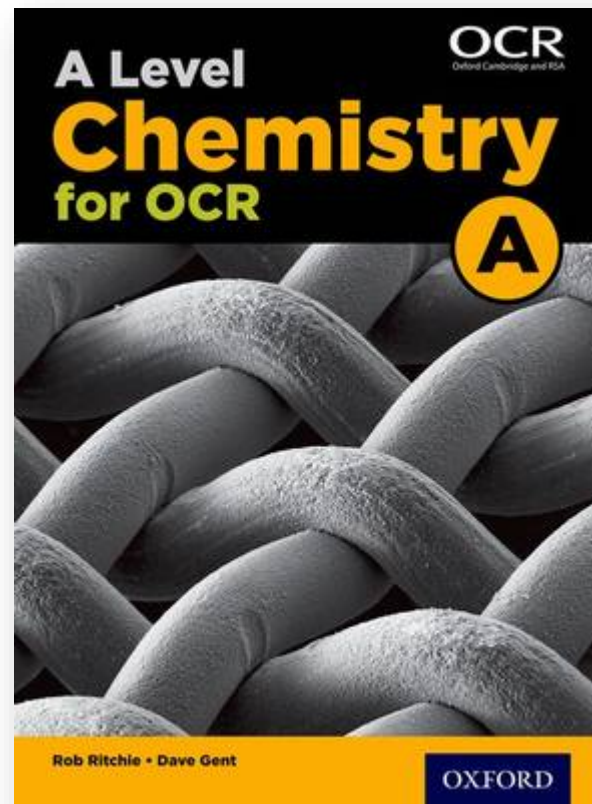
It is responsible for advances in the quality of our lives and is central to understanding the natural world.

Where might chemistry take you?

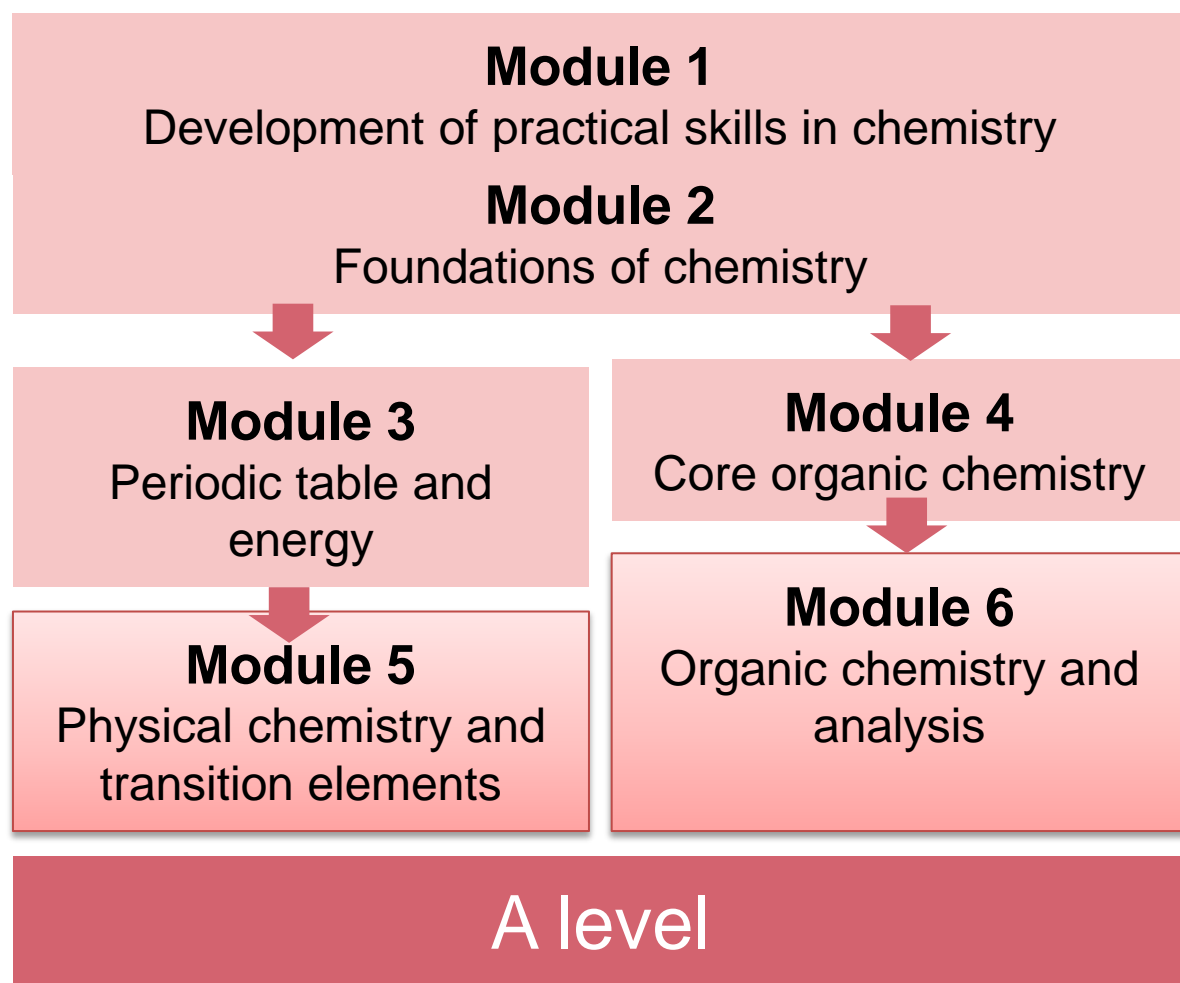
- Chemistry
- Microbiology
- Immunology
- Chemical engineering
- Pharmacy
- Pharmacology
- Environmental science
- Materials science
- Metallurgy
- Dentistry
- Veterinary science
- Biochemistry
- Forensic science
- Medicine
- Neuroscience
- Toxicology
- Food science
- And many others!

What will you study?

- OCR Chemistry A
- This specification has been developed in consultation with the RSC, GSK and teachers.



What will you study?



Modules 2, 3, and 4 are studied in Year 12. Module 1 will span both years.

Terminal assessment model

270 marks

6 hours total
assessment time

Extended response in all
papers

Synoptic assessment
across all papers

Practical based
questions included in all
papers

Paper 1: *Inorganic/Physical*

2 h 15

100 marks

Paper 2 : *Organic/Analytical*

2 h 15

100 marks

Paper 3: *Unified chemistry*

1 h 30

70 marks

Practical endorsement

Investigative

12
Research
skills

Unscaffolding

10
Rates of
reaction –
initial rates
method

11
pH
measurement

**Scaffolding, to
support
specification
content**

6
Synthesis
of an
organic
solid

7
Qualitative
analysis of
organic
functional
groups

8
Electro-
chemical
cells

9
Rates of
reaction -
continuous
monitoring
method

1
Moles
determination

2
Acid–base
titration

3
Enthalpy
deter-
mination

4
Qualitative
analysis of
ions

5
Synthesis
of an
organic
liquid

Mathematics within chemistry

Numeracy and mathematical skills are essential for chemistry.

20% of the content will be maths above GCSE standard, there is no limit on maths of a GCSE standard.

- Application of data/equation
- Problem solving involving different areas of mathematics & decisions about direction to proceed

As such it is important that students have achieved at least a grade 5 in maths alongside their 5 in chemistry or grade 5/5 in combined science.

Progress trends in chemistry

Last year, our students achieved a value added score of +0.22.

This meant that on average they achieved +0.22 of a grade higher than the national average for similar students.

This was the second highest A-Level subject in the school and the highest of any STEM (science, technology, engineering, and mathematics) subject.

Chemistry has consistently been amongst the top STEM subjects for this measure since 2017.

What do our chemists do next?

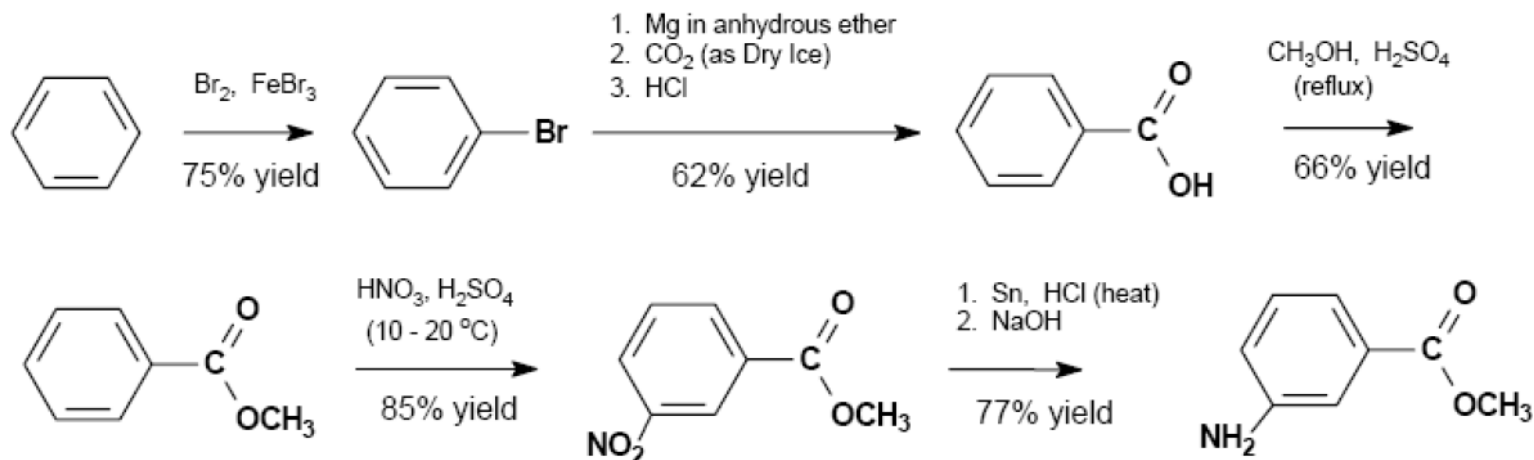
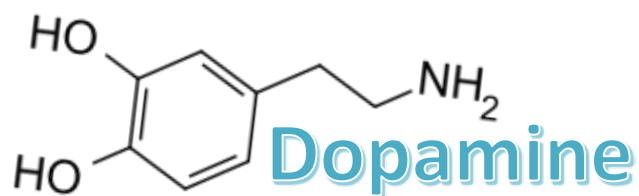
In 2021, 20 out of 31 students (65%) went on to study a STEM subject at university, including 4 studying a primarily chemistry based subject.

In 2022, 17 out of 25 students (68%) went on to study a STEM subject at university, including 4 studying a primarily chemistry based subject.

In 2023, 24 out of 31 students (77%) went on to study a STEM subject at university, including 8 studying a primarily chemistry based subject.

Why study chemistry?

Chemistry is a hugely rewarding subject, and if cracking a challenging puzzle causes your dopamine and serotonin levels to peak, then it might be for you.



Methyl meta-aminobenzoate (MMAB)