

A LEVEL CHEMISTRY

2025-26



THE
PORTSMOUTH
GRAMMAR
SCHOOL



Course Outline

Chemistry is the science of matter, focusing on its structure, properties, and reactions. It underpins all other sciences through its study of chemical interactions. In the first year, students explore core principles such as atomic theory, bonding, energetics, kinetics, and introductory organic chemistry. This foundation leads into more advanced topics, including quantitative kinetics, equilibria, and extended organic chemistry involving carbonyls, aromatics, amines, amino acids, and polymers. Spectroscopic techniques are introduced for structure determination, with an emphasis on problem solving. Inorganic chemistry builds on and extends GCSE knowledge.

A Level External Assessment

Assessment consists of three two-hour written papers. Papers 1 and 2 cover core Chemistry content and make up 70% of the A Level, featuring both short and extended questions. All three papers assess practical skills, with Paper 3 taking a synoptic approach, focusing on analysis, interpretation, and the design of experiments.

Throughout the course, students complete extensive practical work, including 12 required practicals formally assessed for a separate Practical Endorsement. This is reported as a "Pass" or "Fail" on the A Level certificate and, while not contributing to the final grade, is essential for most university offers. At PGS, we enhance preparation with additional in-house practicals often featured in exams.

Entry Requirements

You will normally have taken either GCSE Chemistry or GCSE Combined Science and have attained at least a Grade 8 or 8-8 respectively. In addition, a Grade 7 or equivalent at Mathematics is a good indication that you have a suitable level of mathematical proficiency.

Skills Required and Developed

In this course you will develop your skills in experimental practical work. You will also become more fluent in the use of Mathematics. Your ICT skills will also play an important part in doing research, processing data and presenting your work. Lastly, we will also help you to develop several transferable skills, including how to express your point of view fluently and how to work in a team.

Beyond the Classroom

We arrange a visit to the Chemistry department at Southampton University where we can use the undergraduate laboratories. In addition to this, there is also an opportunity to take part in the RSC Schools' Analyst Competition in Year 12. There will also be an opportunity to undertake project work, either to explore your own interests or as part of your extended essay or EPO. At the end of Year 12 you are encouraged to take the Cambridge Chemistry Challenge and, midway through Year 13, the Chemistry Olympiad.

University Courses and Professions that require the Subject

Chemistry is a compulsory requirement for dentistry, medicine, veterinary science and all the chemical-based degrees such as Chemistry, Pharmacy and Chemical Engineering. It is also a preferred course for many biological-based degrees and for Natural Science.



More Information

Contact our Head of Chemistry, Mr. M Shields:

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You can also find more information on the exam board's website: www.aqa.org.uk