OPTIONS 2026 – Sciences

St Augustine's science options

- Science is a core subject and so therefore must be studied by everyone.
- However there is a choice between Combined Science (2 GCSEs) and Separate Science (3 GCSEs).

- Understanding key scientific principles helps to explain the world around you and enables you to make informed decisions.

AQA Combined Science (Trilogy)

This covers the core scientific content required to study at KS4.

Students will be taught biology, chemistry and physics in separate lessons by subject specialists.

Content

Biology

1. Cells
2. Organisation
3. Infection and response
4. Bioenergetics
5. Homeostasis
6. Inheritance and evolution
7. Ecology

Chemistry

1. Atomic Structure
2. Bonding
3. Quantitative chemistry
4. Chemical change
5. Energy changes
6. Rates of reaction
7. Organic Chemistry
8. Chemical analysis
9. Atmosphere
10. Using resources

Physics

1. Energy
2. Electricity
3. Particle model
4. Radiation
5. Forces
6. Waves
7. Magnets

Assessment

- In year ten the students study all of the content required for the paper 1 examinations. The content for the paper 2 examinations is covered in year eleven.
- Practical skills are assessed in the written examinations.

Assessment objectives

AO1: 40%

Demonstrate knowledge and understanding of:

1) Scientific ideas.
2) Scientific techniques and procedures.

AO2: 40%

Apply knowledge and understanding of:

1) Scientific enquiry, techniques and procedures.

AO3: 20%

- Analyse information and ideas to:

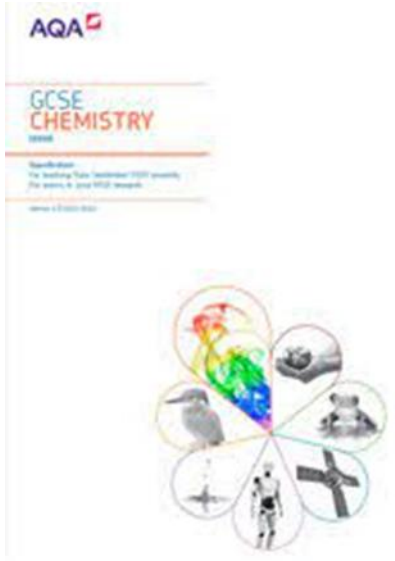
1a) Interpret.
1b) Evaluate.
2a) Make judgements.
2b) Draw conclusions.
3a) Develop experimental procedures.
3b) Improve experimental procedures.

Assessment

- At the end of Year 11 students will sit 6 exams each 1 hour 15 minutes long.
- Each exam has equal weighting and will be worth 16.7% of the final grade.
- These can be higher tier (grades 4-3 to 9-9) or foundation tier (grades 1-1 to 5-5).
- Biology 1 (units 1-4), Biology 2 (units 5-7), Chemistry 1 (units 1-5), Chemistry 2 (units 6-10), Physics 1 (units 1-4) and Physics 2 (units 5-7).
- Students will receive 2 GCSE grades that will be within 1 grade of each other e.g. 4-4, 5-4, 5-5

AQA Separate Sciences
Biology, Chemistry and Physics

- GCSE Separate Sciences offers students a chance to gain a more in depth knowledge of Chemistry, Biology and Physics and to build on areas covered in combined Science in more detail as well as covering extra content. This course is great preparation for studying Science at A level, under-graduate and post-graduate degree level.



Invitation only

- Only students working at a 4+ will be invited to take Separate sciences as an option. Students will be ranked by academic results and the top performing students will be invited to apply.

Additional Content

Biology

1. Monoclonal antibodies (B3)
2. Plant diseases and defences (B3)
3. The brain (B5)
4. The eye (B5)
5. The kidneys (B5)
6. Plant hormones (B5)
7. Protein synthesis (B6)
8. History of genetics (B6)
9. Food security and farming (B7)
10. Biotechnology (B7)

Chemistry

1. Nanotechnology (C2)
2. Atom economy and percentage yield (C3)
3. Titrations (C4)
4. Fuel cells (C5)
5. Alkenes, alcohols, carboxylic acids (C7)
6. Polymers (C7)
7. Ion tests (C8)
8. Properties of materials (C10)
9. Haber process and fertilisers (C10)

Physics

1. Static electricity (P2)
2. Nuclear fission and fusion (P4)
3. Moments (P5)
4. Pressure (P5)
5. Sound waves and ultrasound (P6)
6. Earthquakes (P6)
7. Lenses (P6)
8. Generators, loudspeakers, microphones (P7)
9. Space (whole unit

Assessment

- At the end of Year 11 students will sit 2 exams for each science. All exams are 1 hour 45 minutes long and worth 50% of the final grade.
- These can be higher tier (grades 4-9) or foundation tier (grades 1-5).
- Biology 1 (units 1-4), Biology 2 (units 5-7), Chemistry 1 (units 1-5), Chemistry 2 (units 6-10), Physics 1 (units 1-4) and Physics 2 (units 5-8).
- Students will receive 1 GCSE grade for each of the sciences.

Pathways post-16

- Separate science courses can lead on to study at A-Level and beyond.

- Careers in medicine, veterinary science, mechanical engineering, nursing, midwifery, child care, sports science, meteorology, architecture, chemical engineering and horticulture are accessible through successful completion of this course.

Grade requirements for A level

- Chemistry A level
- Separate Chem 6
- Combined science 77
- 7 Maths
- 6 English Language

- Biology A Level
- Separate Biology 6
- Combined 77
- 7 English language
- 6 Maths

- Physics A level
- Separate Physics 6
- Combined 77
- 7 Maths
- 6 English

Please note well. If you are not working at a 5 Grade or above by the Mock exam then we will enter the student onto the foundation paper where the maximum grade is a 5 or 55 (combined).

Btec Applied Science

Entry requirements are 55
Science 5 Maths and 5 English