

KS4 Curriculum Combined Science handbook subject page

Subject: Combined Science

Syllabus: The Pearson Edexcel Level 2 GCSE Combined Science (9-1)

What will I learn?

Paper 1: Biology 1 will be studied in Year 10.

Topic 1 – Key concepts in biology, Topic 2 – Cells and control, Topic 3 – Genetics, Topic 4 – Natural selection and genetic modification, Topic 5 – Health, disease and the development of medicines

Paper 2: Biology 2 will be studied in Year 11

Topic 1 – Key concepts in biology, Topic 6 – Plant structures and their functions, Topic 7 – Animal coordination, control and homeostasis, Topic 8 – Exchange and transport in animals, Topic 9 – Ecosystems and material cycle

Paper 3: Chemistry 1 will be studied in year 10

Topic 1 – Key concepts in chemistry, Topic 2 – States of matter and mixtures, Topic 3 – Chemical changes, Topic 4 – Extracting metals and equilibria

Paper 4: Chemistry 2 will be studied in year 11

Topic 1 – Key concepts in chemistry, Topic 6 – Groups in the periodic table, Topic 7 – Rates of reaction and energy changes, Topic 8 – Fuels and Earth science

Paper 5: Physics 1 will be studied in year 10

Topic 1 – Key concepts of physics, Topic 2 – Motion and forces, Topic 3 – Conservation of energy, Topic 4 – Waves, Topic 5 – Light and the electromagnetic spectrum, Topic 6 – Radioactivity

Paper 6: Physics 2 will be studied in year 11

Topic 1 – Key concepts of physics, Topic 8 – Energy - Forces doing work, Topic 9 – Forces and their effects, Topic 10 – Electricity and circuits, Topic 12 – Magnetism and the motor effect, Topic 13 – Electromagnetic induction, Topic 14 – Particle model, Topic 15 – Forces and matter

Practical work.

The content includes 18 mandatory core practical's over the year 10 and year 11 course across Biology, Chemistry and Physics

Students must carry out all 18 of the mandatory core practical's

There are 6 core practical's across year 10 and 11 for Biology, 5 practical's in Chemistry and 7 practical's in Physics.

There is no separate exam for the practical's, however 15% of marks in exam papers will be for knowledge, understanding and application of practical skills they have derived from the practical activities.

How will I be assessed?

There are 6 papers taken at the end of year 11 in May/June.

There are 2 papers for Biology, 2 for Chemistry and 2 for Physics.

This results in achieving 2 GCSE's in Combined science.

Each exam is 1 hour and 10 minutes and each exam is out of 60 marks.

Each exam paper consists of six questions and students must answer all questions on the paper.

The paper will include multiple-choice, short answer questions, calculations and extended open-response questions.

Calculators may be used in each of the examinations.

The papers are available at foundation tier and higher tier.

Students must complete all assessments for this qualification in the same tier.

The foundation tier paper will target grades 1–5.

The higher tier paper will target grades 4–9.

16 marks of the paper will be overlap questions that appear in both the foundation and higher tier papers.

How will this prepare me for my next steps?

The content studied in Combined Science will prepare you for further study including A Levels, Applied Science BTEC or Health and Social Care BTEC. You will develop critical analytical and problem solving skills, which are key in both further study and the workplace.

Contribution to UTC/Studio aims

The integrated nature of Combined Science offers opportunities for critical thinking, and for the application of learning to new situations in the wider environment. This teaches flexibility of thought and problem solving skills which equip students for the world of work.

Teaching includes strategies for learning which support students to become independent learners, well equipped to move on to their sixth form studies.

High expectations, a spiral curriculum, weekly assessments and targeted sequenced revision promote a sense of purpose as we move towards a goal of successful outcomes. This momentum results in a positive impact on work ethic, resilience and independence.

Careers/job ideas

Combined Science gives a widely applicable grounding in General Science. Students might go on to careers as;

Paramedics

Nurses

Engineers

Nursery Nurses

Aeronautical engineers

Laboratory Technicians

Veterinary Nurses