

Draft Stage 6 Science Syllabuses

All Science courses

- **Total indicative hours still remains the same (120) for both Preliminary and HSC courses.**
- Changes to assessment requirements especially in weighting and type
 - in Year 11 there will be three formal tasks (one of which may be a written examination)
 - in Year 12 there will be a maximum of four formal tasks (one of which may be a written examination with a maximum weighting of 25%)
 - In each of Year 11 and 12, there will be a Depth Study weighted at 20-40% and a minimum weighting of 25% for practical investigations.
- Senior Science will be discontinued
- New course, Investigating Science, will be introduced.
- Each syllabus includes seven Working Scientifically outcomes and content for investigations in science to be integrated into modules.
- Course structure and requirements
 - Each module has a series of prescribed inquiry questions.
 - Content is organised into 2 mandatory units for each of Year 11 and Year 12. Each unit consists of 2 mandatory modules.
 - Optional modules have been removed from Year 12 courses.
 - All Science courses will include a Depth Study based on some outcomes. The Depth Study must be undertaken by students individually or collaboratively in both Years 11 and 12 in each Science course and assessed internally.
 - Timing for each depth study different in Investigating Science (30 indicative hours) to other Science courses (15 indicative hours).
- Examination specifications – It is proposed that there be objective response questions and short response questions which may be in parts, both of which may include stimulus material. There is no specified weighting between the two styles of questions or a time limit for the examination.

Biology

- Year 11 units – *The structure and function of organisms* (Cells as the basis of life; Organisation of living things) and *The Earth's biodiversity* (Biological diversity; Ecosystem dynamics).
- Year 12 units – *Continuity of life on Earth* (Heredity; Genetic change) and *Disease and disorders* (Infectious disease; Non-infectious disease and disorders).

Chemistry

- Year 11 units – *Fundamentals of Chemistry* (Properties and structure of matter; Introduction to Quantitative Chemistry) and *Chemical interactions and driving forces* (Reactive chemistry; drivers of reactions).
- Year 12 units – *Equilibrium and acids* (Equilibrium reactions; Acid/base reactions) and *Applications of Chemistry* (Organic chemistry; Applying chemical ideas).

Earth and Environmental Science

- Year 11 units – *Early Earth* (Earth's resources; Plate tectonics and energy) and *Earth changes* (Energy transformations; Human impacts)

- Year 12 units – *Evolving Earth* (Evolution of the Earth; Hazards) and *Living on Earth* (Climate change; Resource management)

Investigating Science

- Year 11 units – *Cause and Effect* (Observing; Inferences and generalisations) and *Models, Theories and Laws* (Theories and laws; Scientific models).
- Year 12 units – *Science and Technology* (Scientific investigations; Technologies) and *Contemporary issues involving Science* (Fact or fallacy?; Science and society).
- **How does pattern of study relate to other Science courses, i.e. can it be studied with other courses in preliminary and/or picked up in HSC if another preliminary course has been studied?**

Physics

- Year 11 units – *Fundamental mechanics* (Kinematics; Dynamics) and *Energy* (Waves and thermodynamics; Electricity and magnetism)
- Year 12 units – *Beyond the Fundamentals* (Advanced mechanics; Electromagnetism) and *Developing new ideas in Physics* (Waves or particles?; Models of the atom).

Science Life Skills

- Outcomes are directly aligned with Investigating Science Syllabus.