

Year 12 Science Extension (1 unit) **M**

Year 12 Science Extension focuses on the nature, development and processes of science. The course requires students to engage with complex concepts and theories and to critically evaluate new ideas, discoveries and contemporary scientific research. Students are challenged to examine a scientific research question influenced by their study of one or more of the scientific disciplines. In doing this, students extend their knowledge of the discipline(s), conduct further analysis and authentic scientific investigations, and uniquely for this course, produce a detailed scientific research report that reflects the standards generally required for publication in a scientific journal.

Through designing and conducting their own scientific research, initially using small datasets, students deepen and build upon their understanding of the analysis and interpretation of data. They are provided with opportunities to refine and extend their skills of Working Scientifically by applying these interrelated processes to contemporary authentic scientific research, reflecting the skills used by practising scientists. Students are encouraged to work with practising scientists and engineers as mentors in the development of their research projects.

Who should choose to study Year 12 Science Extension?

The study of Science Extension enables students with a passion for science to explore the development of the scientific process over time, undertake high-level authentic scientific research, communicate findings and propose further research. This course is designed for students with an interest in scientific research. Science Extension lays a foundation for students planning to pursue further study in science, technology, engineering or mathematics (STEM) based courses offered at the tertiary level, and to engage in new and emerging industries.

Course Content

The course is comprised of four modules:

Year 12

- Module 1: The Foundations of Scientific Thinking
- Module 2: The Scientific Research Proposal
- Module 3: The Data, Evidence and Decisions
- Module 4: The Research Report

Suitable students will be identified and nominated by teachers based on their performance in Year 11 courses. Science Extension commences in Term 4 prior to the completion of the HSC in November.

See the NESA Investigating Science syllabus on the website below for more information.

<https://educationstandards.nsw.edu.au/wps/portal/nesa/11-12/stage-6-learning-areas/stage-6-science/science-extension-syllabus>