

Investigating Science

The following contains a description of the course we offer to students at St Marys Senior High. It is intended as a guide to help you select your subjects and you should read it carefully.

Please note:

- The details given represent the way that the course is delivered at St Marys Senior High and may involve different choices from the way other schools might operate the same course.
- Classes can only be formed where sufficient students select the particular course. The fact that a course is listed here is not a commitment to run the course in a particular year.
- The arrangements for particular courses are subject to change for a variety of reasons.
- HSC students may elect to take extension courses which we offer in English, French, History, Japanese, Mathematics and Music.

Investigating Science - Course Details

Units	Type	ATAR	Faculty Teaching This Course
2	Board Developed Course – Examinable at the HSC, marks can be used to count towards an ATAR	A – Counts towards an ATAR with no restrictions	Science

What will I be doing in this course?

The study of Investigating Science in Stage 6 enables students to develop an appreciation and understanding of science as a body of knowledge and a set of valuable processes that provide humans with an ability to understand themselves and the world in which they live. Through applying Working Scientifically skills processes, the course aims to enhance students' analytical and problem-solving skills, in order to make evidence-based decisions and engage with and positively participate in an ever-changing, interconnected technological world.

- The course promotes active inquiry and explores key concepts, models and phenomena. It draws and builds on the knowledge, understanding, skills, values and attitudes gained in Science Stage 5. The Stage 6 course is designed to enhance students' understanding of the value of evidence-based investigations and the use of science-based inquiry in their lives.
- The Investigating Science course is designed to complement the study of the science disciplines by providing additional opportunities for students to investigate and develop an understanding of scientific concepts, their current and future uses, and their impacts on science and society. The course draws on and promotes interdisciplinary science, by allowing students to investigate a wide range of STEM (Science, Technology, Engineering and Mathematics) related issues and concepts in depth.

- Investigating Science encourages the development of a range of capabilities and capacities that enhance a student's ability to participate in all aspects of community life and within a fast-changing technological landscape. The knowledge, understanding and skills gained from this course are intended to support students' ongoing engagement with science, and to form the foundation for further studies and participation in current and emerging STEM-related post-school activities and industries.

Year 11 Course Structure and Requirements				
Year 11 course (120 hours)	Working Scientifically Skills	Modules	Indicative hours	Depth studies
		Module 1 Cause and Effect – Observing	60	*30 hours in Modules 1–4
		Module 2 Cause and Effect – Inferences and Generalisations		
		Module 3 Scientific Models	60	
		Module 4 Theories and Laws		

Year 12 Course Structure and Requirements				
Year 12 course (120 hours)	Working Scientifically Skills	Modules	Indicative hours	Depth studies
		Module 5 Scientific Investigations	60	*30 hours in Modules 5–8
		Module 6 Technologies		
		Module 7 Fact or Fallacy?	60	
		Module 8 Science and Society		

*30 hours must be allocated to depth studies within the 120 indicative course hours.

What should I be able to do at the end of this course?

- The *Investigating Science Stage 6 Syllabus* is designed to assist students of all abilities engage with scientific processes, and apply those processes to investigate relevant personal, community and global scientific issues.
- The ongoing study of science and the specific Working Scientifically skills processes and their application have led humans to accumulate an evidence-based body of knowledge about human interactions – past, present and future – with the world and its galactic neighbourhood. The course is firmly focused on developing the Working Scientifically skills, as they provide a foundation for students to value investigation, solve problems, develop and communicate evidence-based arguments, and make informed decisions.
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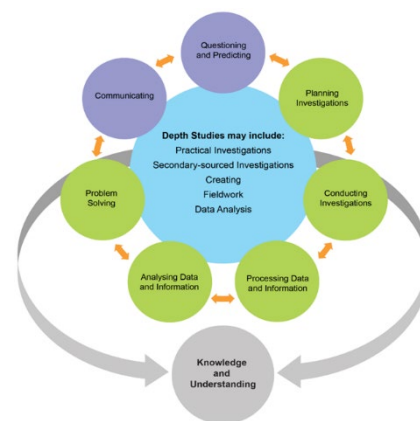
How will I be assessed in this course?

Requirements for Practical Investigations

- Scientific investigations include both practical investigations and secondary-sourced investigations. Practical investigations are an essential part of the Year 11 and Year 12 course and must occupy a minimum of 35 hours of course time for each year including time allocated to practical investigations in depth studies.

Practical investigations include:

- undertaking laboratory experiments, including the use of appropriate digital technologies
- fieldwork



Assessment of Depth Studies must:

- address Questioning and Predicting, and Communicating skills outcomes
- address a minimum of two additional Working Scientifically skills outcomes
- include assessment of at least one Knowledge and Understanding outcome.

Secondary-sourced investigations include:

- locating and accessing a wide range of secondary data and/or information
- using and reorganising secondary data and/or information

Requirements for Depth Studies

- A minimum of 30 hours of in-class time is allocated in both Year 11 and Year 12.
- At least one depth study must be included in both Year 11 and Year 12.
- The two Working Scientifically outcomes of Questioning and Predicting and Communicating must be addressed in both Year 11 and Year 12.
- A minimum of two additional Working Scientifically skills outcomes, and further development of at least one Knowledge and Understanding outcome, are to be addressed in all depth studies.

How will this course help me in the future?

The *Investigating Science Stage 6 Syllabus* is designed to assist students of all abilities engage with scientific processes, and apply those processes to investigate relevant personal, community and global scientific issues.

Investigating Science encourages the development of a range of capabilities and capacities that enhance a student's ability to participate in all aspects of community life and within a fast-changing technological landscape. The knowledge, understanding and skills gained from this course are intended to support students' ongoing engagement with science, and to form the foundation for further studies and participation in current and emerging STEM-related post-school activities and industries.

The course is designed for students who have attained a high level of achievement in Science and wish to pursue further study in Science, Technology, Engineering or Mathematics (STEM) based courses offered at the tertiary level.