

Physics

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.

Physics - 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 Physics Stage 6 Syllabus involves the study of matter and its motion through space and time, along with related concepts that include energy and force. Physics deals with the study of phenomena on scales of space and time – from nuclear particles and their interactions up to the size and age of the Universe. This allows students to better understand the physical world and how it works, appreciate the uniqueness of the Universe, and participate in navigating and influencing the future.

The problem-solving nature of Stage 6 Physics develops students' Working Scientifically skills by focusing on the exploration of models and the analysis of theories and laws, which promotes an understanding of the connectedness of seemingly dissimilar phenomena.

Students who study physics are encouraged to use observations to develop quantitative models of real-world problems and derive relationships between variables. They are required to engage in solving equations based on these models, make predictions, and analyse the interconnectedness of physical entities.

Students will undertake at least one Depth Study in both Year 11 and Year 12. Depth studies provide opportunities for students to pursue their interests in Physics, acquire a depth of understanding, and take responsibility for their own learning. Depth studies promote differentiation and engagement, and support all forms of assessment, including assessment for, as and of learning. Depth studies allow for differentiation of a range of working scientifically skills.

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

The study of Physics provides the foundation knowledge and skills required to support participation in a range of careers. It is a discipline that utilises innovative and creative thinking to address new challenges, such as sustainability, energy efficiency and the creation of new materials. This course will prepare students for further tertiary studies in Science and Engineering.

How will this course help me in the future?

The Physics course builds on students' knowledge and skills developed in the Science Stage 5 course and help them develop a greater understanding of physics as a foundation for undertaking post-school studies in a wide range of Science, Technology, Engineering and Mathematics (STEM) fields. A knowledge and understanding of physics often provides the unifying link between interdisciplinary studies.

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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.

Important information regarding new syllabuses beginning in 2027:

Starting in 2027, students enrolling in Year 11 will complete the new Physics syllabus published in 2025. Students who enrolled in Year 11 in 2026 will be completing the current Physics syllabus published in 2017 for both their preliminary year and HSC year.

The information below is separated into two sections reflecting the different syllabus structures and how it will be delivered at St Marys Senior High School. Please refer to the appropriate section based on your enrolment date.

For further syllabus information and resources, refer to the links below:

- [For students enrolling into the 2026 Physics Course:](#)

<https://www.nsw.gov.au/education-and-training/nesa/curriculum/science/physics-stage-6-2017>

- [For students enrolling into the 2027 Physics Course:](#)

<https://curriculum.nsw.edu.au/learning-areas/science/physics-11-12-2025/overview>

Year 11 2026 Enrolments - Course Structure

Year 11 Course Structure and Requirements				
Year 11 course (120 hours)	Working Scientifically Skills	Modules	Indicative hours	Depth studies
		Module 1 Kinematics	60	*15 hours in Modules 1–4
		Module 2 Dynamics		
		Module 3 Waves and Thermodynamics	60	
		Module 4 Electricity and Magnetism		

Year 12 Course Structure and Requirements				
Year 12 course (120 hours)	Working Scientifically Skills	Modules	Indicative hours	Depth studies
		Module 5 Advanced Mechanics	60	*15 hours in Modules 5–8
		Module 6 Electromagnetism		
		Module 7 The Nature of Light	60	
		Module 8 From the Universe to the Atom		

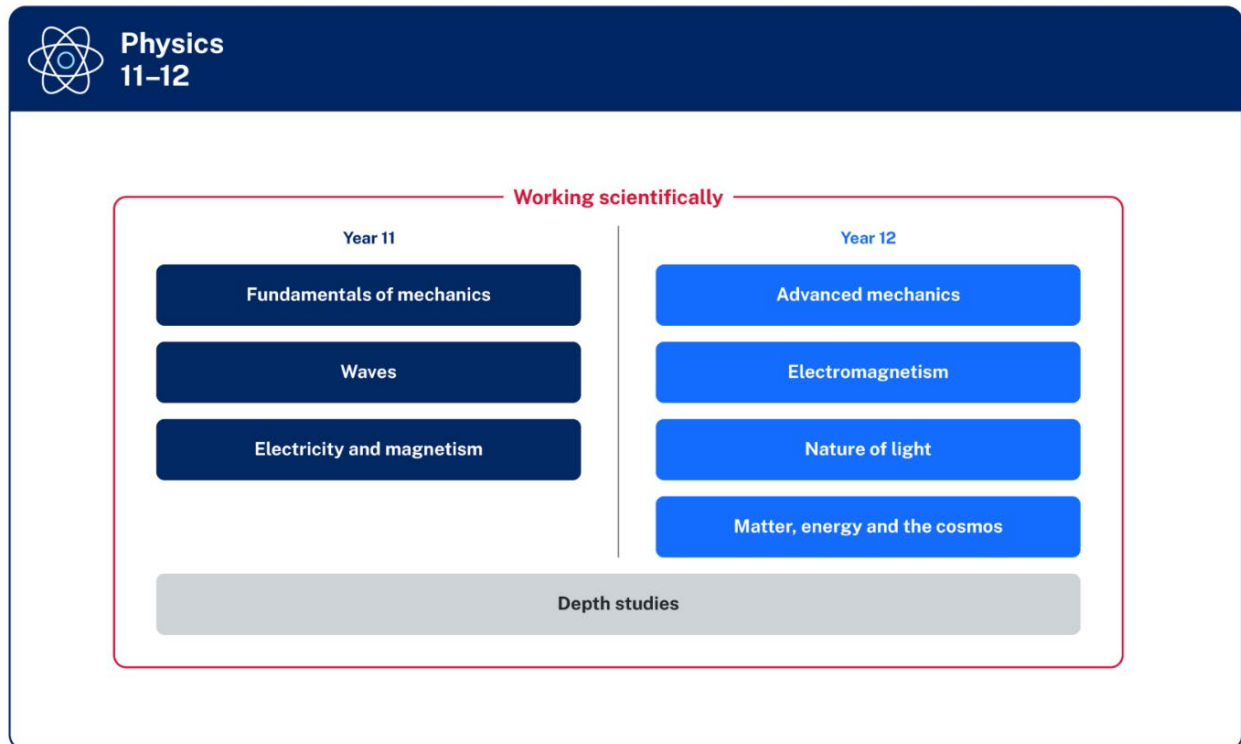
*15 hours must be allocated to depth studies within the 120 indicative course hours.



Year 11 2027 Enrolments - Course Structure

Year 11 Course Structure and Requirements				
120 indicative hours including 10 hours of depth studies	Integrated Working Scientifically outcomes and content	Focus Area	Indicative Hours	Depth Studies
		Fundamentals of mechanics	50	10 hours of depth studies across 3 focus areas.
		Waves	35	
		Electricity and magnetism	35	

Year 12 Course Structure and Requirements				
120 indicative hours including 10 hours of depth studies	Integrated Working Scientifically outcomes and content	Focus Area	Indicative Hours	Depth Studies
		Advanced mechanics	30	10 hours of depth studies across 4 focus areas.
		Electromagnetism	30	
		Nature of light	30	
		Matter, energy and the cosmos	30	



Assessment in Physics for Year 11 2027 and Year 12 2028

School assessment programs must reflect course components and weightings

The course components and component weightings for Year 11 and Year 12 are mandatory.

Course component	Weighting %
Skills in Working scientifically	60
Knowledge and understanding of course content	40

The St Marys Senior High School assessment program will reflect NESAs sample Year 11 and Year 12 formal school-based assessment program for Physics. These are outlined below.

NESA's sample Year 11 formal school-based assessment program for Physics:

- 3 assessment tasks, including:
 - one depth study or aspect of a depth study
 - a formal written examination
 - a weighting for any individual task of 20% to 40%.

NESA's sample Year 12 formal school-based assessment program for Physics:

- 4 assessment tasks, including:
 - one depth study or aspect of a depth study
 - a formal written examination
 - a weighting for any individual task of 10% to 40%.