Chemistry

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.

Chemistry - 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 Chemistry Stage 6 Syllabus explores the structure, composition and reactions of and between all elements, compounds and mixtures that exist in the Universe. The discovery and synthesis of new compounds, the monitoring of elements and compounds in the environment, and an understanding of industrial processes and their applications to life processes are central to human progress and our ability to develop future industries and sustainability.

- Chemistry involves using differing scales, specialised representations, explanations, predictions and creativity, especially in the development and pursuit of new materials. It requires students to use their imagination to visualise the dynamic, minuscule world of atoms in order to gain a better understanding of how chemicals interact.
- The course further develops an understanding of chemistry through the application of Working Scientifically skills. It focuses on the exploration of models, understanding of theories and laws, and examination of the interconnectedness between seemingly dissimilar phenomena.

- 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 Chemistry, 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.

<table>
<tr><th colspan="5">Year 11 Course Structure and Requirements</th></tr>
<tr><td rowspan="5">Year 11 course

(120 hours)</td><td rowspan="5">Working Scientifically Skills</td><td>Modules</td><td>Indicative hours</td><td>Depth studies</td></tr>
<tr><td>Module 1
Properties and Structure of Matter</td><td rowspan="2">60</td><td rowspan="4">*15 hours
in Modules 1–4</td></tr>
<tr><td>Module 2
Introduction to Quantitative Chemistry</td></tr>
<tr><td>Module 3
Reactive Chemistry</td><td rowspan="2">60</td></tr>
<tr><td>Module 4
Drivers of Reactions</td></tr>
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<table>
<tr><th colspan="5">Year 12 Course Structure and Requirements</th></tr>
<tr><td rowspan="5">Year 12 course

(120 hours)</td><td rowspan="5">Working Scientifically Skills</td><td>Modules</td><td>Indicative hours</td><td>Depth studies</td></tr>
<tr><td>Module 5
Equilibrium and Acid Reactions</td><td rowspan="2">60</td><td rowspan="4">*15 hours
in Modules 5–8</td></tr>
<tr><td>Module 6
Acid/base Reactions</td></tr>
<tr><td>Module 7
Organic Chemistry</td><td rowspan="2">60</td></tr>
<tr><td>Module 8
Applying Chemical Ideas</td></tr>
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*15 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?

- Students will develop knowledge and understanding of the fundamentals of Chemistry and the trends and the driving forces in chemical interactions.
- This course will prepare students for further tertiary studies in Science and Engineering.

How will I be assessed in this course?

Requirements for Practical Investigations

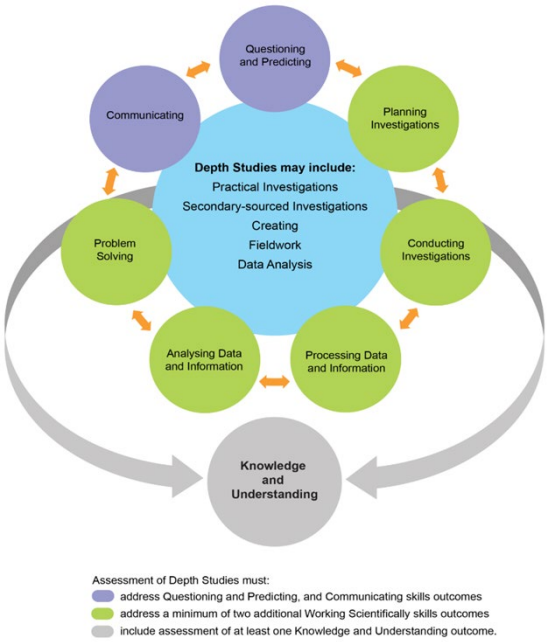
Scientific investigations include both practical investigations and secondary-sourced investigations. Practical investigations are an essential part of the Year 11 and Year 12 course and must occupy a minimum of 35 hours of course time for each year including time allocated to practical investigations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

Practical investigations include:

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

Secondary-sourced investigations include:

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



Requirements for Depth Studies

- A minimum of 15 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.

How will this course help me in the future?

- The study of Chemistry in Stage 6 enables students to develop an appreciation and understanding of materials and their properties, structures, interactions and related applications. Through applying Working Scientifically skills processes, the course aims to examine how chemical theories, models and practices are used and developed.
- The course provides the foundation knowledge and skills required to study chemistry after completing school, and supports participation in a range of careers in chemistry and related interdisciplinary industries. It is an essential discipline that

currently addresses and will continue to address our energy needs and uses, the development of new materials, and sustainability issues as they arise.

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.