

**2010 SENIOR COURSE INFORMATION****SUBJECT: Chemistry**  
**Co-TIC Dr. Marion Edens and Dr. Angela Kelly**

	Year 12	Year 13
	<p>Chemistry is a science that investigates matter in both living and non-living systems. Today we can fingerprint and identify millions of organic and inorganic compounds. There are probably no aspects of our lives in which chemical principles are not apparent.</p> <p>A background of Chemistry is required or preferred in a wide variety of careers, for example Agricultural Science, Biochemistry, Medical and Allied Health fields, Forensic Science, Veterinary Science, Winemaking, and Zoology.</p> <p>The Rathkeale College Chemistry program caters for everyone from those who will need a background in the subject, to the very able and serious science students. By relating chemical principles and the development of skills to the context in which they are used, both in and outside the classroom, the students' learning will be relevant and meaningful.</p>	
Course Content	<p>90305 (2.1) This standard involves carrying out procedures and using knowledge of precipitation reactions to determine ions present in solution.</p> <p>90306 (2.2) This standard involves carrying out an acid-base volumetric analysis using a given titration procedure.</p> <p>90763 (2.3) This standard involves solving simple quantitative chemical problems using the relationships <math>n=m/M</math> and <math>c=n/V</math>.</p> <p>90308 (2.4) This standard involves describing the bonding in simple molecules and the nature of various types of solids.</p> <p>90309 (2.5) This standard involves describing the structural formulae and reactions of compounds containing selected organic functional groups.</p> <p>90310 (2.6) This standard involves the understanding of principles of chemical reactivity by describing and using simple thermochemical and equilibrium information.</p> <p>90311 (2.7) This standard involves describing oxidation-reduction reactions.</p>	<p>90694 (3.1) This achievement standard involves carrying out an extended practical investigation individually. It will involve the development of a procedure to collect data in relation to a possible trend in the amount of a substance, collecting and processing data, interpreting the results to reach a conclusion, and presenting a report.</p> <p>90695 (3.2) This standard involves individually carrying out an oxidation-reduction titration and calculating the composition of an unknown sample using data from a redox titration.</p> <p>90696 (3.3) This standard involves identifying and describing oxidation-reduction processes.</p> <p>90780(3.4) This achievement standard involves describing properties of atoms, molecules, and ions, and thermo-chemical principles.</p> <p>90698 (3.5) This achievement standard involves describing the structure, physical properties, and reactions of organic compounds.</p> <p>90700 (3.7) This achievement standard involves describing properties of aqueous systems using equilibrium principles.</p>
Pre Requisites	A minimum of 14 credits from the Year 11 Science program, including the Chemistry standard 90189.	A minimum of 14 credits, 7 of which must be from externally assessed standards, from Year 12 Chemistry

Assessment	<p><u>External</u> (16 credits)</p> <p>90308 (2.4) Describe the nature of structure and bonding in different substances (4)</p> <p>90309 (2.5) Describe the structural formulae and reactions of compounds containing selected organic functional groups (4)</p> <p>90310 (2.6) Describe thermochemical and equilibrium principles (5)</p> <p>90311 (2.7) Describe oxidation-reduction reactions (3)</p> <p><u>Internal</u> (8 credits)</p> <p>90305 (2.1) Carry out a qualitative analysis (3)</p> <p>90306 (2.2) Perform an acid-base volumetric analysis (3)</p> <p>90763 (2.3) Solve simple qualitative chemical problems</p>	<p><u>External</u> (18 credits)</p> <p>90696 (3.3) Describe oxidation-reduction processes (3)</p> <p>90780 (3.4) Describe properties of particles and thermochemical principles (5)</p> <p>90698 (3.5) Describe principles of organic chemistry (5)</p> <p>90700 (3.7) Describe properties of aqueous systems (5)</p> <p><u>Internal</u> (6 Credits)</p> <p>90694 (3.1) Carry out an extended practical investigation involving quantitative analysis (4)</p> <p>90695 (3.2) Determine the concentration of an oxidant or reductant by titration ((2)</p>
Costs (approximate)	<p>Workbook + CD ROM \$23.00</p> <p>Lab. Book \$22.00</p>	<p>Workbook + CD ROM \$30.00</p> <p>Lab. Book \$22.00</p>