Chemistry Curriculum Overview - Year 13 - Teacher B

	Unit	Details
Autumn One	**Equilibrium**	Equilibrium-like kinetics builds upon the qualitative view of equilibrium studied in Year 12 to consider a deep understanding of how equilibria can be controlled and understood by means of calculations of the equilibrium constant (Kc or Kp).
Autumn Two	**Acids, Bases and pH**	Acids, bases and pH are important in many chemical and biological processes. The role of buffers in maintaining the pH of the blood is used to show the essential role of acids and bases to our health and well being.
Spring One	**Electrode Potential**	In this unit chemists study the importance of redox reactions in electrochemical cells, including fuel cells and those used to power our portable devices.
Spring Two	**Chromatography and Spectroscopy**	This section develops and complements the spectroscopic areas of organic chemistry previously encountered in Year 12. This topic demonstrates how analytical techniques introduced previously (infrared spectroscopy, mass spectrometry and elemental analysis) may be used in combination with NMR spectroscopy to provide evidence of structural features in molecules. The instrumentation methods of analysis studied during the A level course provide chemists with an important base of knowledge, understanding and awareness for further study in Higher Education and in many areas of employment in the broader scientific field.
Summer One	**Organic carbonyl compounds**	In organic carbonyl compounds chemists will look at carbonyl compounds, aldehydes and ketones. Also developing your previous knowledge of ion tests to look at how unknown organic functional groups can be analysed and identified using simple test-tube tests. Finally, carboxylic acids and their related functional groups, acyl chlorides and esters, are studied. The importance of acyl chlorides in organic synthesis is emphasised.
Summer Two	**Polymers**	In Year 12 chemists were introduced to the formation of polymers from alkenes. This unit extends this idea as they learn about a second type of polymerisation, condensation. This produces polyamides and polyesters, used in the synthesis fibres and many modern plastics.