Aut 1	Aut 2	Spring 1
3.3.9 Carboxylic acids and derivatives	**Amines**	**Organic synthesis and analysis & Structure determination**
RP10 Prepartion of **1. a pure solid and test of its purity** **2. a pure organic liquid**	3.3.11 Amines	3.3.14 Organic synthesis
TEST 3.3.7, 3.3.8, 3.3.9 - To be given as homework	3.3.12 Polymers	3.3.15 Nuclear magnetic resonance spectroscopy
Periodicity - Summer Task	**Amino acids, Proteins and DNA**	**RP12 Separating of species by thin-layer chromatography**
3.2.4 Properties of Period 3 elements and their oxides	3.3.13.2 Proteins	**TEST 3.3.14, 3.3.15, 3.3.16**
TEST 3.2.4	3.3.13.3 Enzymes	**Reactions of ions in aqueous solution**
Aromatic chemistry, amines, polymers	3.3.13.4 DNA	**RP11 Carry out simple test-tube reactions to identify transition metal ions in aqueous solution**
3.3.10 Aromatic Chemistry	3.3.13.5 Action of anti-cancer drugs	**TEST 3.2.6**
TEST 3.3.10	**3.3.11, 3,3,12, 3.3.13**	
PPE exams (Early oct)		**PPE exams (Jan)**
A2 Thermodynamics	**Acids, bases and buffers**	
3.1.8.1 Born–Haber cycles	3.1.12 Acids and bases	**Transition Metals**
3.1.8.2 Gibbs free-energy change, ΔG, and entropy change, ΔS	3.1.12.1 Brønsted–Lowry acid–base equilibria in aqueous solution	3.2.5.4 Formation of coloured ions
TEST 3.1.8	3.1.12.3 The ionic product of water, KW	3.2.5.5 Variable oxidation states
PPE exams (Early oct)	3.1.12.4 Weak acids and bases Ka for weak acids	3.2.5.6 TM catalysts
	3.1.12.5 pH curves, titrations and indicators	**TEST 3.2.5**
Equilibrium constant K_p	3.1.12.6 Buffer action	**Electrode potentials and electrochemical cells**
3.1.10 Equilibrium constant K p for homogeneous systems	3.1.12.3 The ionic product of water, KW	3.1.11.1 Electrode potentials and cells
TEST 3.1.10	3.1.12.6 Buffer action	3.1.11.2 Commercial applications of electrochemical cells
Consolidating lesson	**RP9 Investigate how pH changes when a weak acid reacts with a strong base.**	**RP8 Measuring the EMF of an electrochemical cell**
	TEST 3.1.12	**TEST 3.1.11**
	Consolidating lesson	**Consolidating lesson**