CHEMISTRY LEARNING JOURNEY

Year 12

Understanding and Applying Chemistry skills

- Understanding variables
- Writing methods
- Assessing impact of scientific concepts
- Drawing conclusions
- Applying maths to the scientific concepts
- Describe patterns
- Evaluation of scientific concepts
- Drawing graphs and analysing graphical data
- Analysis of secondary data
- Modelling scientific concepts
- Understanding relationships between science and society
- IDEAL Identify, describe, explain, apply, link
- Risk Assessment
- Evaluating data and investigations

Year 13

Final A level exams

Examinations

Revision

- Module 5 review
- Module 3 review
- Module 1 review
- Module 6 review
- Module 4 review
- Module 2 review

Physical chemistry and energy

- Lattice enthalpy and enthalpy changes of solution
- Neutralisation
- Buffer solutions and buffers in the body
- pH of weak acids
- Ka
- pH scale and strong acids
- Bronsted-Lowry acids and bases
- Position of equilibrium
- Equilibrium constant
- PAG 9 and 10
- Rate constants
- Orders and rates
- Measuring enthalpy changes
- Enthalpy changes
- Bond enthalpies
- PAG 3
- Reaction rates
- Catalysts
- Boltzmann distribution
- Le Chatilier
- Entropy
- Redox reactions
- Electrode potentials
- Ligand substitution
- Redox titrations
- Free energy
- PAG 11
- Ph of strong bases
- Rate determining step
- Storage and fuel cells
- PAG 8
- Rate concentration graphs
- Concentration time graphs
- Redox and qualitative analysis
- PAG 12
- D-block elements
- Stereoisomerism in complex ions
- Qualitative analysis
- PAG 4
- Hess' Law and enthalpy cycles
- Equilibrium constant
- PAG 1
- Acids, bases and neutralisation
- Redox
- Titrations

Core organic chemistry and analysis

- Combined techniques
- Interpreting NMR
- NMR spectroscopy
- Proton NMR
- Carbon-13 NMR
- Chromatography
- PAG 6
- Further practical techniques
- Practical techniques in organic chemistry
- Organohalogen compounds in the environment
- PAG 5
- Reactions of alcohols
- Properties of alcohols
- Polymerisation in alkenes
- Reactions of alkenes
- Alkenes
- Chemical reactions of alkanes
- Reaction mechanisms
- Isomerism
- Organic chemistry
- Amino acids, amides and chirality
- Further synthetic routes
- Amines
- Aldehydes and ketones
- Phenol and directing groups
- Benzene
- Carbonyl compounds
- Carboxylic acids
- PAG 7
- Condensation polymers
- Carbon-carbon bond formation
- Infrared spectroscopy
- Mass spectroscopy
- Synthetic routes
- Chemistry of haloalkanes
- Electrophilic addition in alkenes
- Nomenclature and organic compounds
- Formulae of organic compounds
- Alkanes
- Moles and volumes
- Mass, formulae and equations
- Atomic structure and isotopes

Periodic Table and Foundations in Chemistry

- The halogens
- Group 2
- Periodic table
- Periodic trends
- Ionisation energies
- PAG 2
- Intermolecular forces and hydrogen bonding
- Electronegativity and polarity
- Shapes of molecules
- Reacting quantities
- Covalent bonding
- Ionic bonding
- Electronic structure

Year 12

Practical skills (Module 1)

- Evaluating
- Analysis
- Implementation
- Planning

* Distribution of units is dependent upon the number of teacher and so there maybe slight variation from what is displayed.

FORT PITT GRAMMAR SCHOOL

OCR Oxford Cambridge and RSA

FORT PITT LEARNING & TEACHING