NEW LOWER SECONDARY CURRICULUM.

CHEMISTRY SYLLABUS

SENIOR ONE

TERM	THEME	TOPIC (periods allocated)	CONTENT
I	Introduction to chemistry	Chemistry and society (6)	• Discrete nature of chemistry • Why study chemistry • Chemistry careers • Contribution of chemistry to Uganda economy
		Experimental chemistry (12)	• Laboratory rules and regulations (risk assessment and safety) • Lab equipment and apparatus • Scientific methods of experimentation • Purity of substances
	Particle nature of matter	States and change of states of matter (9)	• Matter • Properties of matter • Kinetic theory of matter and states of matter • Change of state of matter • Cooling effect of evaporation
		Using materials (9)	• Materials in everyday life • Nature of polymers used daily • Physical properties of polymers and their use • Molecular structure of materials • How common materials pollute

			environment • Effect of heat on structure and properties of matter
II	Temporary and permanent changes to materials	Temporary and permanent changes (16)	• Temporary and permanent changes (chemical and physical changes)
		Mixtures, elements and compounds (20)	• Determination of purity • Determination of elements, mixtures, compounds • Separation of mixtures
III	Air and environment	Air (10)	• Air • Air pollution • Processes that use oxygen to form oxides
		Water (14)	• Occurrence of water • Physical and chemical properties of water • Water cycle • Water and sewage treatment
	Earth and space	Rocks and minerals (12)	• Formation of igneous, sedimentary, metamorphic rocks • Physical properties of rocks • Differentiate between types of rocks • Weathering and soil formation

SENIOR TWO

TER	THEME	TOPIC (periods allocated)	CONTENT

M			
I	Acids and alkalis	Acids and alkalis (12)	• Acids and alkalis • Concept of pH • Reactions between acids and alkalis
		Salts (12)	• Neutralization to form salts • Common substances in every day life
	The periodic table	The periodic table (12)	• Metals and non metals • Atomic number and periodic table • First 20 elements • Position of element and charge on ion
II	Carbon in the environment	Carbon in the environment (36)	• Carbon compounds as fuels • Renewable and non-renewable fuels • Carbon fuels on the environment • Process of making charcoal • Physical properties and uses of carbon dioxide • Carbon dioxide and global warming • Green house gases and effect on climate • Origin of hard water and its softening • Allotropes of carbon; properties and uses
III	Order of reactivity	Reactivity series (36)	• Chemical reactivity of metals • Reactivity series • Alloys

SENIOR THREE

TER	THEME	TOPIC (periods allocated)	CONTENT

M			
I	Carbon in life	Carbon in life (30)	• Diversity of carbon compounds • Crude oil and its fractions • Natural gas, methane as fuels • Biogas • Synthetic and natural polymers • Alcohols, ethanol and its uses • Manufacture of ethanol from sugars • Manufacture of soapy detergents • Soaplesss detergents • Organic compounds and homologous series
	Structures and bonds	Structures and bonds (18)	• Atoms as building blocks of matter • Elements, molecules, compounds and their relationship. • Subatomic structure • Properties of subatomic particles • RAM, Proton mass, Nucleon number, isotopes • Formation of compounds from atoms • Ionic, covalent, metallic bonding • Difference in physical properties of ionic and covalent compounds
II	Equations in chemistry	Formulae, stoichiometry and mole concept (30)	• RAM, RMM • Number of moles and number of particles • Number of moles and mass • Moles of a gas and volume • Synthesize chemical formulae • Interprete chemical reactions • Scientific attitudes and values in investigating

			matter
	Structure of substances	Properties and structure of substances (18)	• Properties and structure of substances
III	Fuels and energy	Fossil fuels (20)	• Types and origins of fossil fuels • Why they are used as source of energy
	Reactants and products	Chemical reactions (28)	• Rate of chemical reactions • Effect of factors on rate of reactions • Importance of reversible reactions in industrial processes.

SENIOR FOUR

TERM	THEME	TOPIC (periods allocated)	CONTENT
I	Redox reactions	Oxidation and reduction reactions (18)	• Process of oxidation and reduction. • Importance of oxidation and reduction • Electrolysis
		Industrial processes (30)	• Useful chemicals • Extraction of useful chemicals • Use of nitrates as fertilizers, food production and formation from air • Industrial processes in Uganda

			• Industrial processes and natural resources • Dangers of industrial processes to society • Lime and cement manufacture • Production of alkali and chlorine by electrolysis of brine • Use of synthetic polymers
II	Periodicity	Trends in the periodic table (20)	• Trends in physical properties of elements • Trends in chemical properties of elements of elements in the third period • Physical and chemical properties of different elements
	Thermochemistry	Energy changes during chemical reactions (28)	• Endothermic and exothermic reactions • Bond energy • Importance endothermic and exothermic reactions in nature • Burning of fuels as exothermic reactions • Concept of heat of reaction • Interpret energy profiles of chemical reactions
III	Consumable chemicals	Chemicals for consumers (20)	• Properties of soap and detergents • Cleansing action of soap and detergents • Use of food additives • Use of chemicals in medicine • Chemical industry contribution to our lives
		Nuclear processes (12)	• Atomic structure, nuclear fission and fusion; dangers associated with them • Spontaneous and random nature of nuclear decay • Interpreting decay data in half life • Social, political and environemental dimension

			with use of nuclear power