DINTHILLTECHNICALHIGHSCHOOL

SYLLABUSOUTLINE

GRADE 11

DEPARTMENT: NATURAL SCIENCE **YEAR:** 2026 - 2027

COURSE OF STUDY: CHEMISTRY

PRE-REQUISITE: COMPLETION OF GRADE 11 CURRICULUM

COURSE DESCRIPTION:

DURATION	TOPIC	OBJECTIVES	ACTIVITY/ASSESSMENT
1 WEEK (Sept 7 - 11, 2026)	**VOLUMETRIC ANALYSIS**	1. Investigate neutralization reactions using indicators and temperature changes; 2. Perform calculations using volumetric analysis data; 3. Define the term standard solution.	1. SBA activity 2. Class work
1 WEEK (Sept 14 – 18, 2026)	**ORGANIC CHEMISTRY** - Sources of hydrocarbon compounds	1. Identify natural gas and petroleum as natural sources of hydrocarbons; 2. List the main uses of at least three fractions obtained from the fractional distillation of petroleum; 3. Describe cracking of petroleum fractions.	Classwork

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2 WEEKS (Sept 21 – Oct 2, 2026)	**ORGANIC CHEMISTRY** - Introduction to Organic Chemistry	1. Define Organic Chemistry; 2. Illustrate that carbon atoms can form single and double bonds, branched and unbranched chains and ring compounds; 3. Write formulae to represent simple organic compounds; 4. List the general characteristics of a homologous series; 5. Write general and molecular formulae for members of a given homologous series; 6. Deduce the homologous series given the fully displayed and condensed formulae of compounds.	Classwork
2 WEEKS (Oct 5 – 16, 2026)	**ORGANIC CHEMISTRY** - Introduction to Organic Chemistry Cont'd	1. Write fully displayed structures and names of branched and unbranched alkanes and unbranched alkenes, alcohols, and alkanoic acid; 2. Define structural isomerism; 3. Write the fully displayed structures of isomers given their molecular formulae.	Classwork
1 WEEK (Oct 19 – 23, 2026)	**ORGANIC CHEMISTRY** - Reactions of carbon compounds-alkanes, alkenes, alcohols and acids.	1. Describe the reactions of alkanes and alkenes; 2. Relate the characteristic reactions of alkanes and alkenes to their structures;	1. Classwork 2. Homework 3. SBA Activity

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1 WEEK (Oct 26 – 30, 2026)	**SIX-WEEK TESTS**		
2 WEEKS (Nov 2 – 13, 2026)	**ORGANIC CHEMISTRY** - Reactions of carbon compounds-alkanes, alkenes, alcohols and acids. Cont'd	1. Distinguish between alkanes and alkenes; 2. Relate the properties of hydrocarbons to their uses; 3. Identify alcohols, acids and esters by their functional groups; 4. Relate the properties of alcohols and acids to their functional groups; 5. Describe the reactions of ethanol; 6. Describe the fermentation process by which ethanol is produced from carbohydrates;	1. Classwork 2. Homework 3. SBA activity
2 WEEKS (Nov 16 – 27, 2026)	**ORGANIC CHEMISTRY** - Reactions of carbon compounds-alkanes, alkenes, alcohols and acids. Cont'd	1. Describe the reactions of ethanoic acid; 2. Explain hydrolysis of esters including saponification; 3. Compare soapy and soapless detergents; 4. Define polymers; 5. Distinguish between addition and condensation as reactions in the formation of polymers; 6. State at least one use of each of the following types of polymers.	1. Classwork 2. Test
	Revision		
DECEMBER 2026		**End of Term Exams**	

TERM TWO			
DURATION	**TOPIC**	**OBJECTIVES**	**ACTIVITY/ASSESSMENT**
1 WEEK (Jan 4 – 8, 2027)	**INORGANIC CHEMISTRY** - Characteristics of Metals	1. Describe the physical and chemical properties of metals; 2. Describe the reactions of metallic oxides, hydroxides, nitrates and carbonates.	Classwork
1 WEEK (Jan 11 – 15, 2027)	**INORGANIC CHEMISTRY** - Reactivity and Extraction of Metals	1. Discuss the reactivity of metals; 2. Deduce the order of reactivity of metals based on experimental results or data supplied; 3. Describe the extraction of aluminum and iron.	1. Classwork 2. Homework
1 WEEK (Jan 18 – 22, 2027)	**INORGANIC CHEMISTRY** - Uses of Metals	1. Explain why metal alloys are often used in place of the metals; 2. Relate the properties of the metals (aluminum, lead, iron) and their alloys to their uses.	1. Classwork 2. Homework
1 WEEK (Jan 25 – 29, 2027)	**INORGANIC CHEMISTRY** - Impact of Metals on Living Systems and the Environment	1. Investigate the conditions necessary for the corrosion of metals; 2. Explain the importance of metals and their compounds on living systems and environment; 3. Discuss the harmful effect of metals and their compounds to living systems and the environment.	1. Classwork 2. Test 3. SBA activity

DURATION	TOPIC	OBJECTIVES	ACTIVITY/ASSESSMENT
2 WEEKS (Feb 1 – 12, 2027)	**INORGANIC CHEMISTRY** - Non-metals	1. Describe the physical and chemical properties of non-metals; 2. Describe the laboratory preparation of gases; 3. Explain the use of gases based on their properties; 4. List uses of the non-metals: carbon, sulfur, phosphorus, chlorine, nitrogen, silicon and their compounds; 5. Discuss the harmful effects of non-metal on living systems and the environment;	1. Classwork 2. Test 3. SBA activity
2 WEEKS (Feb 15 – 26, 2027)	**INORGANIC CHEMISTRY** - Non-metals	1. Relate the unique properties of water to its functions in living systems; 2. Discuss the consequences of the solvent properties of water; 3. Describe the methods used in the treatment of water for domestic purposes; 4. Define Green Chemistry; 5. Outline the principles of Green Chemistry.	1. Classwork 2. Homework 3. Test
2 WEEKS (March 1 – 12, 2027)	**INORGANIC CHEMISTRY** - Qualitative Analysis	1. Identify cations - Pb^{2+}, Al^{3+}, Ca^{2+}, Zn^{2+}, Fe^{3+}, Fe^{2+}, NH^{4+}, Cu^{2+}; 2. Identify anions - CO_3^{2-}, SO_4^{2-}, SO_3^{2-}, NO_3^{-}, Br^{-}, I^{-}, CI^{-}; 3. Identify gases - H_2, O_2, CO_2, NH_3, SO_2, Cl_2, NO_2, H_2O.	1. Classwork 2. Homework 3. SBA activity 4. Test

THE END!