

Dougherty Valley High School College Preparatory Chemistry

This is an outline of the essential skills and content that you will need to demonstrate mastery of in order to be successful in your C.P. Chemistry class. During the year you will be periodically evaluated on the following material in several different ways. This list was composed using the Next Generation Science Standards, Common Core Standards, as well as skills we believe are essential in preparing you for science classes you may take in the future. Please note – this course plan is subject to change at the teacher’s discretion.

Core Ideas			Cross Cutting Concepts	
Matter and its interactions	Forces and Interactions	Energy	Patterns Cause and effect Scale, proportions & quantity Systems and models	Energy and matter Structure and function Stability and change

Essential Content Standards

C-1	The Atom	1	Proton, neutron, electron properties and locations	C-6	Reactions	1	Balancing reactions
		2	Electron configuration			2	Identification of common reaction types
		3	Changes to electrons			3	Writing reactions
C-2	Nuclear Chemistry	1	Types of decay	C-7	Stoichiometry	1	Mole conversions
		2	Balancing nuclear equations			2	Mole ratio stoichiometry
		3	Half life calculations			3	Multistep stoichiometry
C-3	Periodic Table	1	Structure and organization	C-8	Thermo-chemistry	1	Conceptualize energy changes in a reaction
		2	Periodic trends			2	Connection to making and breaking of bonds
		3	Explaining trends based on atomic structure			3	Calculations involving energy change
C-4	Molecules & Compounds	1	Define main types of bonds	C-9	Kinetics	1	Rate/collision theory
		2	Identify types of bonds			2	Rate affecting factors
		3	Molecular structure			3	Kinetic calculations
C-5	Inter-molecular Forces	1	Types of intermolecular forces	C-10	Equilibrium	1	Define and explain equilibrium
		2	Strength of intermolecular forces			2	Describe ways to shift equilibrium
		3	Effect on bulk properties			3	Equilibrium calculations

Essential Science Practices

Essential Lab Skills

P-1	Asking questions	P-5	Using mathematics and computational thinking	L-1	Follow laboratory safety rules	L-5	Perform named lab techniques properly
P-2	Developing and using models	P-6	Constructing explanations	L-2	Maintain accurate, detailed, organized lab notes or book	L-6	Correctly present laboratory data
P-3	Planning and carrying out investigations	P-7	Engaging in argument from evidence	L-3	Measure quantities of chemicals correctly	L-7	Analyze laboratory data/observations
P-4	Analyzing and interpreting data	P-8	Obtaining, evaluating & communicating info	L-4	Use laboratory equipment correctly	L-8	Clearly communicate laboratory findings