Danville Area School District
Course Overview and Scope and Sequence

Course Title: Honors Chemistry
Content Area: Science
Grade Level: Primarily 10th
Date Developed: June 2023

COURSE OVERVIEW: Honors Chemistry is designed to provide students who are considering science majors in postsecondary education with a rigorous experience with chemical principles and laboratory procedures that will ensure their initial success in additional coursework at the university level. This course will maximize opportunities for the individual to polish mathematical skills and scientific skills. Students selecting Honors Chemistry should have above average grades in previous math and science courses, should be motivated and willing to work independently, and be willing to ask for extra assistance, when needed. This course may be taken concurrently with other science courses.
ANCHOR STANDARDS: 1. Structure and Properties of Matter 2. Chemical Reactions 3. Nuclear Processors 4. Forces and Motion
KEY COURSE TEXT AND MATERIALS: Pearson Chemistry Foundation Edition 2012
KEY ASSESSMENTS: unit tests, laboratory analysis assignments following each laboratory experiment Diagnostic: None Formative: POGIL, gizmo, labs, quizlet, classroom discussions, forms for bell ringer/exit ticket Summative: Quizzes and tests

SCOPE AND SEQUENCE					
Unit	PRIORITY STANDARDS	SUPPORTING STANDARDS	ASSESSMENT	MATERIALS	TIMEFRAME
1. Intro to Chemistry and Scientific Measurements	3.2.9-12.A 3.2.9-12.G	3.2.6-8.C	FLINN measurements, discovering density,quizzes and test	Content is teacher created. In addition to lab/project supplies, materials are posted in Google Classroom.	20 days
2. Atomic Structure	3.2.9-12.A 3.2.9-12.T	3.2.6-8.A 3.2.6-8.I 3.2.6-8.Q 3.2.9-12.A 3.2.9-12.G	Radiation Lab, modeling nuclear decay, analyzing flame test data and emissions, quizzes and test	Content is teacher created. In addition to lab/project supplies, materials are posted in Google Classroom.	20 days
3. The Periodic Table and Bonding	3.2.9-12.A	3.2.6-8.A 3.2.9-12.A 3.2.9-12.G	POGIL, Card game, periodic trends lab, modeling electrons and bonding, diagraming Lewis structures, VSPER shape lab, quizzes and test	Content is teacher created. In addition to lab/project supplies, materials are posted in Google Classroom.	25 days
4. Nomenclature and Intro Moles	3.2.9-12.A 3.2.9-12.B 3.2.9-12.D	3.2.6-8.E 3.2.9-12.A 3.2.9-12.G	Hydrate lab, modeling moles, diagraming mole relationship with volume, KClOx lab, analyzing	Content is teacher created. In addition to lab/project supplies, materials are posted in Google Classroom.	25 days

			nomenclature, quizzes and test		
5. Chemical Reactions and Stoichiometry	3.2.9-12.C 3.2.9-12.G	3.2.6-8.D 3.2.6-8.E 3.2.6-8.F 3.2.9-12.A 3.2.9-12.G	Balancing chemical reactions, modeling reactions and solubility,	Content is teacher created. In addition to lab/project supplies, materials are posted in Google Classroom.	25 days
6. Kinetic Theory and Gas Laws	3.2.9-12.B 3.2.9-12.D 3.2.9-12.E	3.2.6-8.B 3.2.6-8.N 3.2.6-8.O 3.2.9-12.A 3.2.9-12.G	Phase lab, modeling gas laws lab, molar volume of hydrogen lab, quizzes and tests.	Content is teacher created. In addition to lab/project supplies, materials are posted in Google Classroom.	20 days
7. Solutions	3.2.9-12.E	3.2.9-12.A 3.2.9-12.G	Solubility curve lab, Colligative properties analysis, freezing point depression lab, quizzes and test.	Content is teacher created. In addition to lab/project supplies, materials are posted in Google Classroom.	20 days
8.Acid Base	3.2.9-12.E	A2.2.2 3.2.9-12.A 3.2.9-12.G	POGIL, modeling acids and bases lab, titrations lab, quizzes and test	Content is teacher created. In addition to lab/project supplies, materials are posted in Google Classroom.	15 days

Understood standards: basic algebra, basic reading and comprehension