Course Title: **Chemistry** **Board Approval Date: June, 2018**
Credit (Secondary): 1 credit

Grade Level / Course Summary with Big Ideas: 11th grade

This course focuses on mastery of the PA Academic Standards for Science and Technology and Engineering (secondary). Students will study key concepts regarding the composition, structure, and properties of matter and how substances interact and transform in the context of chemistry in everyday life. Through classroom demonstrations and discussions, laboratory activities, small group activities/projects, reading, and writing, students will learn about the chemical makeup of the world and familiar applications of chemistry. This course will serve as preparation for college chemistry for non-science majors.

Grade Level Modules (Units):	**Suggested Timeline # of Class Periods/Lessons**
0. Getting to Know *Chemistry in the Community*	2
1. Materials: Formulating Matter	32
2. Air: Designing Scientific Investigations	34
3. Petroleum: Breaking and Making Bonds	34
4. Water: Exploring Solutions	30
5. Atoms: Nuclear Interactions	20
6. Food: Matter and Energy for Life	30

Learning Activities/Modes of Formative and Summative Assessment:

Large group instruction

Class, Individual, and Small Group Discussions

Tests and Quizzes

Laboratory experiments

Videos

Checklists / Teacher Observation

Small group work: Developing Skills, Modeling Matter, Making Decisions

Projects with Rubrics: Putting it All Together

Computer simulations

Lab Journals / Write-ups

Primary Instructional Resources:

Text: American Chemical Society *Chemistry in the Community*, 6th Edition (W. H. Freeman, 2012) (

Laboratory Manual: *Chemistry with Vernier*: Experiments for General Chemistry; Holmquist, Dan; Randall, Jack; Volz, Donald (Vernier Software & Technology; 2017)(

(Online Resources: class wiki, class Google Classroom page, virtual lab sites, acceptable Internet websites and apps