

Integrated Physics & Chemistry – Course Information

Integrated Physics and Chemistry (IPC) is a high school course currently offered to incoming 9th graders. IPC introduces the basic concepts in physics and chemistry.

IPC is an entry level applied course. This course introduces both chemistry and physics in a conceptual (qualitative) manner. Students will find this approach to be consistent with the science instruction they received in middle school. A major difference between this course and middle school course work is that students will also be learning through more rigorous mathematical (quantitative) methods. Almost ½ of the required knowledge and skills for chemistry require calculations. Physics is almost completely a course in applied mathematics. Students in IPC must prepare themselves for a more rigorous mathematical component in their course work.

Students will receive a more thorough training in chemistry and physics by taking the Chemistry and Physics courses. These courses will provide greater depth, but also require more advanced skills in mathematics.

Requirements: The student will be required to complete all assignments exercising honesty and integrity.

Grading: Each six-weeks grade will be derived from three sources.

- 1) Homework/Quizzes – 25%
- 2) Laboratory Exercises – 25%
- 3) Examinations – 50%

Late Homework or Labs:

- 1) An assignment is defined as late if it is not ready to grade or be turned in at the time it is requested by the instructor.
- 2) Late grade penalties as agreed upon by the faculty and staff at Coleman High School are assessed as follows:
 - a) Later that day or the next morning BEFORE school:
- 15 pts;
 - b) The next day during or after school: - 30 pts;
 - c) After that the grade will be entered as a zero and Mr. Holloway will become involved in the process.

Semester grades are derived following district guidelines.

Tutorials:

Mandatory tutorials can be assigned by the instructor or by Mr. Holloway.

I will assign mandatory tutorials any time a student's average **falls below 70% in either the homework or test category**. A student may have an overall average above 70% and still be

assigned mandatory tutorials by me. The student is released from tutorials at the discretion of the teacher.

Mr. Holloway will assign a student to mandatory tutorials if the overall average is below 70% at progress reports. **The student will be required to attend tutorials until the following progress reporting period.**

It is important to note that absences from tutorials are the same as classroom absences with equal consequences.

Classroom Rules:

- 1) Allow the teacher to teach and the students to learn.
- 2) Respect yourself, others, and the school.

Headphone/ earbuds policy:

Students will not be allowed to use earbuds or headphones other than as instructed by the teacher.

Required Supplies:

- 1) A "Composition Book" (to be used as a science journal);
- 2) A ring binder w/ pocket dividers or folder w/ pockets (for handouts);
- 3) A package of copy paper
- 4) Pencils;
- 5) RED pens.

Suggested Additional Supplies:

- 1) Calculator;
- 2) Multicolored pen for "color-coding" your notes.

----- Beginning of 1st Six-weeks -----

Unit 01: Laboratory Management 4 Days

Safety in the IPC lab
Organization Activities

Unit 02: Organization of Matter 20 Days

Properties of Matter
Understanding Elements, Compounds, & the Periodic Table

----- Beginning of 2nd Six-weeks -----

Unit 03: Changes in Matter 12 Days

States of Matter
Chemical Changes

Unit 04: Chemical Reactions 14 Days

Conservation of Mass
Exothermic & Endothermic Reactions
Nuclear Reactions

----- Beginning of 3rd Six-weeks -----

Unit 05: Environmental Impact of Chemical Reactions 5 days

Environmental Impact of Chemical Reactions

Unit 06: Solutions 16 Days

Nature of Solubility
Ions in Solution

----- Beginning of 4th Six-weeks -----

Unit 07: Motion, Position, Speed, & Acceleration 16 Days

Describing and Calculating Motion
Measuring & Graphing Motion

Unit 08: Motion, Forces, and Momentum 9 Days

Traditional Forces and Motion
Gravitational & Electrical Forces

----- Beginning of 5th Six-weeks -----

Unit 09: Energy: Potential & Kinetic 9 Days

Energy: Potential & Kinetic

Unit 10: Energy: Conversions & Conservation 10 Days

Thermal Energy Conversions and Conservation

Unit 11: Energy: Societal Impacts 5 Days

Societal Impacts of Energy Usage

----- Beginning of 6th Six-weeks -----

Unit 12: Energy: Electricity 10 Days

Series vs. Parallel Circuits
Electricity vs. Magnetism

Unit 13: Energy: Waves 14 Days

Wave Properties
Wave Application