

## Contact Information

**Mr. J. Horner**  
Carmel HS Science

**Office Hours:** 7:30-7:50, 3:05-3:30, or by appointment

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## Course Description

Integrated Chemistry-Physics is an introductory, laboratory-based course in which students explore fundamental chemistry and physics principles. Students in this course examine, through the process of scientific inquiry, the structure and properties of matter, chemical reactions, forces, motion, and the interactions between energy and matter. Integrated Chemistry-Physics is a Core 40 and Academic Honors Diploma science course.

## Classroom Expectations

A short list of important principles will be applied within the classroom. As mature high school students you should not require a long list of rules to follow. All of your behavior should reflect the classroom principles at all times. Stay positive, be responsible, and be engaged!

1. Respect
2. Responsibility
3. Integrity
4. Honesty
5. Collaboration
6. Safety

The following rules also apply<sup>1</sup>:

1. Student Handbook
2. No cell phones or other technology out during class time. Items will be confiscated if necessary.
3. No food or drink.

## Materials

I want you to be successful in Chemistry, but you'll have to make sure that you're prepared to be successful too! Make sure to bring these things to class every day:

1. **Textbook** — This is an important resource to bring to class every day.
2. **Scientific Calculator** — Chemistry is a math-based science. You **MUST** have a calculator available at all times. There are no extra calculators in the classroom if you forget your own.
3. **Notebook/Folder/Binder** — Something to organize your papers and take notes with specifically for this class.
4. **Pencil or Pen** — Blue or black.

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<sup>1</sup> The teacher reserves the right to add additional rules at any time as necessary.

5. **Safety Goggles** (Note: protective eyewear will be worn in the laboratory **at all times!** Safety goggles are provided for your use in the classroom. If you have your own or wish to purchase your own be sure to check with your instructor.)

## Grading

Grades will be assigned based on the Carmel High School grading scale:

Grade	Percentage	Grade	Percentage
A	92.0-100.0%	C-	
A-	90.0-91.9%	D	
B		D-	
B-		F	59.0%
C			

In addition, you should expect the following grade distributions<sup>2</sup>:

Grade Category	Percentage of Grade
Assignments	25%
Labs	15%
Notes	10%
Quizzes	10%
Exams	40%

## Assignments

Assignments will be given in class and as homework to help you learn and practice the concepts covered during the course. These assignments are given for your benefit. Some concepts will be difficult, but by trying and practicing you will become much more adept at them for labs and exams.

Assignments may seem uncomfortable or difficult at times, but that is just part of the challenging learning process! You are encouraged to seek help from me or your classmates at any time.

Collaborating on assignments and studying together is encouraged, cheating is not! (Yes, there is a difference!)

Work hard, study, complete your assignments and labs, and you will be successful in Chemistry!

## Laboratory

Chemistry is a laboratory-based course and, therefore, is best learned when it can be seen and experienced. Laboratory activities will be completed in every unit of the course. Many of these labs will utilize chemical substances that could be potentially hazardous if used carelessly. Great attention will

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<sup>2</sup> Subject to change based on the total number of assignments and average student performance. Changes will only be made for the general benefit of students in the course.

be given in the course to appropriate laboratory procedures, etiquette, and safety precautions. **Failure to comply with safety precautions and instructions will result in dismissal from that day's lab activity!**

To be successful and safe in the laboratory make sure to do the following:

1. Read and sign the Laboratory Safety Contract.
2. Complete pre-laboratory assignments BEFORE the day of lab.
3. Wear safety goggles at all times.
4. Obey all warnings and safety instructions, particularly regarding chemicals used.
5. Be aware of your surroundings (and the location of your partner).

## Quizzes

Quizzes will be given periodically as a way to determine your progress on a particular topic. They are meant to tell you and me what you know well and what you need to spend more time covering. They are not meant to seriously impact your grade, and they won't as long as you stay prepared and study in advance.

## Exams

An exam will be given at the conclusion of every unit. This is your opportunity to show me what you have learned. Exams will be written to assess key concepts of the unit and to challenge you to apply your knowledge of the unit's topics. As the first test approaches, more information will be provided on the format and types of questions.

## Course Topics

Semester 1 - Chemistry	Semester 2 - Physics
Scientific Inquiry and Measurement	Scientific Method and Procedure
Physical and Chemical Changes	Motion
States of Matter	Newton's Laws and Gravity
Compounds and Molecules	Work and Energy
Atomic Structure	Heat and Temperature
The Periodic Table	Waves
Families of Elements	Sound and Light
The Mole	Electricity
Chemical Reactivity	
Solutions	
Acids, Bases, and Salts	
Nuclear Chemistry	