

# Kingsborough Community College The City University of New York

## Science 025 : Winter 2008

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**Office hours T, W, Th 4-6**

This course is designed to cover a selection of topics in both physics and chemistry primarily for students majoring in one of the various health-related programs. The emphasis will be on understanding the principles and concepts as well as the practical aspects of physics and chemistry. Make no mistake about it, science is hard, and our aim is to challenge you. Science is also fun, and it our hope that upon completion of this course that you too will have a new-found appreciation for it. The course is divided into two parts: *Lectures* and *Experiments*. Each part is complimentary to each other and represents an integral part of the course. Lectures will emphasize concepts and basic laws of nature with specific applications to the health professions. Emphasis will also be placed on problem-solving skills. The course has a weekly (two hour) Laboratory session. In place of a Experiment Manual, there will be a Web Posting of each of the Laboratory write-ups. You may access these Experiments by first going to the Kingsborough web page : [www.Kingsborough.edu](http://www.Kingsborough.edu) , then clicking on to Departments and then Physical Sciences. Here you will find the listing for Science 25. Before coming to Experiment, you are responsible for downloading that weeks Experiment as well as reading all of the instructions for the assigned experiment. For many of these Experiments, there will be associated Web sites that may be accessed. These sites will give the student a preview of the concepts to be covered and should be looked at **before** coming to Experiment. Note there will be a **Quiz** at the beginning of each Experiment meeting based on the previous/current experiment.

<b><u>GRADING:</u></b>	<b>Exams</b>	<b>40%</b>
	<b>Web Assignment</b>	<b>5%</b>
	<b>Final Exam</b>	<b>30%</b>
	<b>Laboratory</b>	<b>25%</b>

**Textbook:**      **Conceptual Physical Science 3<sup>rd</sup> Ed.**

P.G Hewitt, J. Suchocki, L.A. Hewitt

## **The chapters to be covered in the course are the following:**

<b>Appendix A:</b>	On Measurement & Unit Conversion
<b>Chapter I:</b>	Patterns of Motion & Equilibrium
<b>Chapter II:</b>	Newton's Law of Motion
<b>Chapter III:</b>	Momentum & Energy
<b>Chapter IV:</b>	Newton's Law of Universal Gravitation
<b>Chapter V:</b>	Projectile & Satellite Motion
<b>Chapter VI:</b>	Fluid Mechanics
<b>Chapter VII:</b>	Thermal Energy & Thermodynamics
<b>Chapter VIII:</b>	Heat Transfer & Change of Phase
<b>Chapter IX:</b>	Static & Current Electricity
<b>Chapter X:</b>	Magnetism & Electromagnetic Inductance
<b>Chapter XI:</b>	Waves & Sound
<b>Chapter XII:</b>	Light Waves
<b>Chapter XIII:</b>	Properties of Light
<b>Chapter XIV:</b>	Atoms & the Periodic Table
<b>Chapter XV:</b>	Atomic Models
<b>Chapter XVI:</b>	The Atomic Nucleus
<b>Chapter XVII:</b>	Elements of Chemistry
<b>Chapter XVIII:</b>	Mixtures
<b>Chapter XIX:</b>	How Atoms Bond
<b>Chapter XX:</b>	Molecular attractions
<b>Chapter XXI:</b>	Chemical Reactions
<b>Chapter XXII:</b>	Acids & Bases
<b>Chapter XXIII:</b>	Oxidation & Reduction
<b>Chapter XXIV:</b>	Organic Compounds