



**PHYSICS 30**

SCN3797

5 Credit Course

<b>Course Overview</b>	Physics 30 is composed of four units of study: A. Momentum and Impulse B. Forces and Fields C. Electromagnetic Radiation D. Atomic Physics																																
<b>Prerequisite</b>	<i>Please refer to Alberta Education's Provincially Authorized Senior High School Courses and Course Codes Document</i>																																
<b>Required Materials &amp; Resources</b>	<ul style="list-style-type: none"> <li>• Four Modules and Twelve Assignment Books</li> <li>• Textbook: Physics, Pearson, 2009</li> <li>• Students are also required to use the www.learnalberta.ca website. User ID LA12 Password 2953</li> </ul>																																
<b>Learning Outcomes</b>	<p><b>The student will:</b></p> <ul style="list-style-type: none"> <li>A. explain how momentum is conserved when objects interact in an isolated system</li> <li>B. explain the behaviour of electric charges, using the laws that govern electrical interactions</li> <li>C. describe electrical phenomena, using the electric field theory</li> <li>D. explain how the properties of electric and magnetic fields are applied in numerous devices</li> <li>E. explain the nature and behaviour of EMR, using the wave model</li> <li>F. explain the photoelectric effect, using the quantum model</li> <li>G. describe the electrical nature of the atom</li> <li>H. describe the quantization of energy in atoms and nuclei</li> <li>I. describe nuclear fission and fusion as powerful energy sources in nature</li> <li>J. describe the ongoing development of models of the structure of matter</li> </ul>																																
<b>Note</b>	<p><b><i>Within Alternative Education all teachers are required to follow a common course outline and gradebook set up.</i></b></p>																																
<b>Assessment</b>	<p>The student's grade is determined by the knowledge the student has acquired based on the program of studies and the skills the student is able to show in articulating his or her knowledge.</p> <p>The student's grade will be calculated based on the following: <i>(70% of the school grade will be combined with 30% of the diploma exam grade to calculate an overall final grade)</i></p> <p><b>Coursework –25%</b></p> <p><b>Quizzes– 25%</b></p> <p><b>Midterm – 25%</b></p> <p><b>Final Exam – 25%</b></p>																																
<b>Topics of Study</b>	<table border="1"> <thead> <tr> <th>UNIT</th> <th>MODULE</th> <th>TITLE</th> </tr> </thead> <tbody> <tr> <td rowspan="3">A</td> <td>1</td> <td><i>Momentum and Impulse</i></td> </tr> <tr> <td>2</td> <td><i>The Conservation of Momentum</i></td> </tr> <tr> <td></td> <td><i>Unit A Exam</i></td> </tr> <tr> <td rowspan="3">B</td> <td>3</td> <td><i>Electrical Phenomena</i></td> </tr> <tr> <td>4</td> <td><i>Magnetic and Electric Fields</i></td> </tr> <tr> <td></td> <td><i>Unit B Exam</i></td> </tr> <tr> <td rowspan="3">C</td> <td>5</td> <td><i>Wave Theory of Light</i></td> </tr> <tr> <td>6</td> <td><i>Wave Particle Duality/Quantum Physics</i></td> </tr> <tr> <td></td> <td><i>Unit C Exam</i></td> </tr> <tr> <td rowspan="2">D</td> <td>7</td> <td><i>Nature of the Atom</i></td> </tr> <tr> <td>8</td> <td><i>Nuclear Decay, Energy and the Standard Model</i></td> </tr> <tr> <td></td> <td></td> <td><i>Unit D Exam</i></td> </tr> </tbody> </table>	UNIT	MODULE	TITLE	A	1	<i>Momentum and Impulse</i>	2	<i>The Conservation of Momentum</i>		<i>Unit A Exam</i>	B	3	<i>Electrical Phenomena</i>	4	<i>Magnetic and Electric Fields</i>		<i>Unit B Exam</i>	C	5	<i>Wave Theory of Light</i>	6	<i>Wave Particle Duality/Quantum Physics</i>		<i>Unit C Exam</i>	D	7	<i>Nature of the Atom</i>	8	<i>Nuclear Decay, Energy and the Standard Model</i>			<i>Unit D Exam</i>
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<b>An Important Note About Assessment</b>	A wide range of assessment information is used in the development of a student's final grade. Within Alternative Education, individualized assessments provide specific information regarding student progress and overall performance in the course. Student assessments may vary from student to student to adapt to differences in student needs, learning styles, preferences and paces. The teacher will apply best teaching practices to determine appropriate assessment.
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**TEACHER'S CONTACT INFORMATION:**

<b>Teacher's Name:</b>	
<b>Teacher's Phone Number:</b>	
<b>Teacher's Email Address:</b>	