

## NOUVEL CATHOLIC CENTRAL HIGH SCHOOL

### Second Year Honors Chemistry II SYLLABUS

<b>COURSE DESCRIPTION:</b>	<p>Students will follow the Advanced Placement Chemistry syllabus dictated by the College Board (<a href="http://www.collegeboard.com/student/testing/ap/sub_chem.html">http://www.collegeboard.com/student/testing/ap/sub_chem.html</a>).</p> <p>The purpose of this course is to cover the basic facts and principles of chemistry in detail. Students who complete this course will have covered approximately the same amount of material as a first year college class. Upon completion of the course, the student may take the AP Chemistry exam to receive college credit.</p> <p>Independent study and motivation are strongly needed because of the rapid pace of the course. A large amount of problem solving is required for the successful student.</p> <p>Due to the rapid pace and large selection of topics to cover, labs will be performed in correlation with material covered when time allows.</p>
<b>MAJOR COURSE GOALS:</b>	<p>By the end of this year students will be able to:</p> <ol style="list-style-type: none"><li>1. Demonstrate an understanding of advanced atomic theory and relate various historical experiments to this understanding;</li><li>2. Describe and use electron configurations to explain spectra, atomic radii, ionization energies, etc., of a given atom;</li><li>3. Predict the various intermolecular bonds / binding forces in a given compound, as well as compare the magnitude of these binding forces between different compounds;</li><li>4. Use advanced VSEPR to draw Lewis structures for molecular compounds as well as predict orbital hybridization and sigma vs pi bonding;</li><li>5. Understand radiation and nuclear reactions and how these are used by humans constructively (or destructively?);</li><li>6. Use the Kinetic Molecular Theory to describe the properties of solids, liquids and gases as well as its use for the ideal gas law;</li></ol>

	<ol style="list-style-type: none"> <li>7. Describe how kinetic energy and temperature are related;</li> <li>8. Draw and interpret phase diagrams;</li> <li>9. Make, measure and react solutions accurately;</li> <li>10. Understand and use acid-base, metathesis, and oxidation reduction reactions;</li> <li>11. Use stoichiometry and be able to calculate stoichiometric ratios;</li> <li>12. Calculate and use equilibrium constants as well as La Chatelier's principle to describe a chemical system;</li> <li>13. Explain the concept of Kinetics and use data to determine the reaction rate laws for a system;</li> <li>14. Explain the three laws of thermodynamics and explain how they are dependent on Gibbs Free Energy and Entropy.</li> </ol>
COURSE ASSESSMENT PLAN:	<p>Since this represents a college course, the majority of assessments are quizzes or tests. When labs are performed they will take the place of quizzes for that unit. Tests and quizzes are primarily problem solving exercises.</p> <p>Each unit will start with a note-taking assignment to encourage students to prepare for topics before they discuss them in class.</p> <p><b>Homework is one of the most important aspects of the class</b> since the problems encountered in the homework will be similar to the problems they will encounter on tests and quizzes.</p> <p>Several days each week will be devoted to lecture and / or class discussion. At least one day per unit will be devoted to problem solving and homework support.</p> <p>Several projects are assigned each semester.</p>
SUPPLIES AND MATERIALS NEEDED:	<p>You will need plenty of pencils and a large multi-section notebook. Loose paper will also come in handy. A folder with multiple sleeves for holding past papers is necessary.</p> <p>A calculator with an "Exp" or "EE" button is required, as well as buttons for logarithmic functions (ln or lg or log). Many calculator brands have inexpensive models with these buttons. This does <u>not</u></p>

	<p>need to be a \$100 TI Graphing Calculator, though if you have this calculator for your math class it will work for chemistry as well.</p>
EXTRA HELP:	<p>I am available everyday from 7 AM until school starts, and for 30 to 40 minutes after school finishes. Students are encouraged to come in for help.</p> <p>If a student has failed or done poorly on a quiz or unit test, they are strongly urged to come in and discuss options for bringing that grade up. Poor grades are not written in stone – extra work can help boost scores.</p> <p>Unfortunately, those students who wait until the end of the semester/marking period to seek help will not be granted this option of extra work. Please come in ASAP after a poor quiz or test for help, not 5 weeks later when the marking period ends.</p>
INSTRUCTIONAL PHILOSOPHY:	<p>We will use a combination of teaching styles from lecture, to class discussion, to demonstrations, to student based labs, to group work and laboratory investigations in order to appeal to the many different learning styles of our students.</p> <p>This is a college based class and the students are expected to be more responsible for their own learning and motivated to use their texts and the web to teach themselves the topics rather than rely solely on the teacher.</p> <p>Success doing homework in Second Year Chemistry often determines a student’s success in the class. It is extremely important that students learn to network with each other outside of class and help each other. Study groups are encouraged and most students benefit greatly from helping each other.</p>
MAJOR COURSE PROJECTS AND INSTRUCTIONAL ACTIVITIES:	<p>Once a month students will be given a short writing assignment on a topic for the current unit. This will encompass 2 to 4 typewritten pages in the approved MLA format .</p>
CLASSROOM EXPECTATIONS:	<p>Students are expected to arrive and be in their desks by the time the bell rings.</p> <p>During class discussions students must try and participate. An answer of “I don’t know” will not be accepted. Students should attempt a solution and realize that an incorrect answer, given</p>

	<p>sincerely, is fine.</p> <p>Students must have pencils, notebook, folder and calculator for class everyday.</p> <p>Students should respect each other and the teacher.</p> <p>Extra credit is rarely given. Students are expected to learn and use the material taught, rather than rely on extra points.</p> <p>Students who expect to miss class due to sports or other reasons are expected to be responsible and give plenty of notice that they will be gone. In this way they can get assignments before they go.</p>
<p>HOMEWORK POLICY AND GRADING SCALE:</p>	<p>Homework needs to be turned in on time, and <b>it is expected that the students have checked their work and answers in the back of the book, or with the teacher, before handing it in.</b></p> <p>Work turned in late will result in loss of some credit (usually 50%).</p> <p>Work turned in more than 2 weeks late will usually receive no credit.</p> <p>Grades are determined by points earned. This roughly translates into the following percentages:</p> <p>Approximately 10-20% of the grade is the homework and notes;</p> <p>Approximately 10 -20% of the grade is labs, projects or papers;</p> <p>Approximately 65-70% of the grade is quizzes and tests;</p> <p>Approximately 5% of the grade is participation.</p>
<p><b>CONTACT INFORMATION:</b></p>	
<p>Teacher:</p>	<p>Mark Bradtke</p>
<p>Email Address:</p>	<p>mbradtke@sacschools.org</p>
<p>Phone Number:</p>	<p>The email above is the fastest and surest way of contacting me.</p>