CHM 1025

Introduction to Chemistry

Fall 2007-1

Syllabus and Handouts

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CHM 1025  
Introduction to Chemistry  
Fall 2007-1  

Class times: Tuesday 5:40-8:10 PM in room 2208.

Instructor: Dr. Alberto Velazquez

Email: avelazq1@mdc.edu

Office Hours: Saturday 11:25 – 12:25 PM by appointment at the Science Resource. / Tutoring Center in room 2221.

Mr. Serge Theodore’s phone at the Tutoring Center: 305-237-3658.

Course Description: CHM 1025 (Ref. # 419693) is a beginning chemistry course, which has been designed for those students who have little or no background in chemistry or those who do not meet the prerequisites for CHM 1045. This course attempts to provide beginning students with certain knowledge and skills, which will enable them to be successful in the first semester of General Chemistry, CHM 1045.

The topics covered in this course are elementary principles of modern chemistry, including concepts of atomic and molecular structure, chemical bonding, stoichiometry, and the properties of solutions. Please refer to the attached course competencies for a more detailed description of the course goals and objectives.

Pre-requisites: MAT 1033 or suitable score on algebra placement test.

Required Materials:


- **Calculator:** Please refer to the calculator regulations.

Grading Policy:

80% of your score will be based on problem solving sets and in-class examinations. The other 20% will be based on your final exam score.

- **Problem sets**: You will be assigned problems for each topic covered in the lecture. Problem sets will include at least one online written assignment per chapter. Please refer to WebCT for chapter assignments and due dates. The percent average of all your problem sets will count as an exam score towards your final grade. *PLEASE NOTE THAT THE HOMEWORK SCORE CANNOT BE DROPPED.*

- **Exams**: Five exams and a final exam (see below) will be given throughout the course of the semester. Refer to the schedule for tentative test dates and coverage. Please note that *MAKE-UP EXAMS WILL NOT BE GIVEN*. To compensate for this regulation, the lowest test score will be dropped. *IF YOU MISS AN EXAM, FOR WHATEVER REASON, IT WILL AUTOMATICALLY BECOME YOUR DROPPED SCORE.*

- **Final Exam**: There will be a final, *CUMULATIVE*, exam at the end of the course as indicated in the schedule.

- **Grading Scale**:

  A = 88 – 100%
  B = 75 – 87%
  C = 60 – 74%
  D = 50 – 59%
  F = 0 – 49%

  An “I” will be given only if the final exam is missed due to extreme circumstances.
• **Disabled Students:** Accommodations will be made for students with physical disabilities. Contact me if you have any special needs, or require specific assistance or accommodations. For learning disabilities, contact the ACCESS department (Room 1567, 305-237-3072).

• **Attendance:** The success of each student in this course is dependent on your presence and professional conduct during each lecture. Therefore, after 3 unexcused absences, your grade in the class **WILL BE DROPPED ONE LETTER GRADE**. You are expected to arrive on time and remain for the duration of the lecture session. If you are absent, it is your responsibility to obtain missed notes, announcement, and handouts.

• In addition, you will receive **ONE** warning for any disruptions during lecture (e.g., cellular phone ringing, unruly behavior). After this warning, I will ask you to leave the class for the day and you will be counted as absent. Please, note that smoking, drinking, and eating are not allow in MDC classrooms.

• **Drop Dates:** The last day to withdraw with a full refund is Wednesday, September 5, 2007. The last day to withdraw with a grade of “W” is Thursday, November 1, 2007. Please adhere to these deadlines. It is your responsibility to formally withdraw from the course. **YOUR INSTRUCTOR WILL NOT DROP YOU,** from the course if you have attended at least one session.

• **Academic Dishonesty Policy:** If you are suspected of cheating, plagiarism, or any other form of academic dishonesty as outlined in College Procedure 4071, you will be subject to procedural due process as outlined in College Procedure 4074.

• **Office Hours:** As indicated at the head of the syllabus, only by appointment.

• **Additional Help:** Additional tutoring may be obtained at the Natural Sciences Tutoring Center (Room 2221).

• **Media and Web Resources:** Packaged together with your textbook, you will receive a Web Tutor (WebCT) Toolbox. WebCT is an online program that contains valuable resources for your success in this course. **YOU MUST REGISTER IN WebCT IN ORDER TO COMPLETE THE ONLINE ASSIGNEMENTS.**

• The online assignments consist of multiple-choice questions. You will have **ONLY ONE** attempt to complete each homework assignment. Once you submit
an attempt for grading, the system will inform you of your total score and whether or not you answered each question correctly. Your highest score will be automatically recorded in my gradebook.

- In addition to the online homework assignments, WebCT offers tutorials, flashcards, chapter outlines, and other tools and activities to enrich your course experience. You can also monitor your grades and progress in the course through WebCT.

- As you read your text, you will be referred to your interactive CD-ROM (packaged with the text). This CD contains visual aids, including simulations and short movies.
## Course Schedule:

<table>
<thead>
<tr>
<th>WEEK/DATE</th>
<th>CHAPTER</th>
<th>TOPIC</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Sept. 4</td>
<td>1,2</td>
<td>Introduction, Scientific method; measurement, and significant figures.</td>
</tr>
<tr>
<td>2 Sept. 11</td>
<td>2</td>
<td>Scientific notation, metric system, conversion factors, dimensional analysis.</td>
</tr>
<tr>
<td>3 Sept. 18</td>
<td>2</td>
<td>Equivalence conversion factors, density, temperature scales, % error, and matter.</td>
</tr>
<tr>
<td>4 Sept. 25</td>
<td>1,2,3</td>
<td>Exam # 1 Properties of matter, changes in matter, mixtures, elements and compounds.</td>
</tr>
<tr>
<td>5 Oct. 2</td>
<td>4,5</td>
<td>Atoms, molecules, and compounds. Subatomic particles, isotopes, atomic mass, periodic law, arrangement of the periodic table.</td>
</tr>
<tr>
<td>6 Oct. 9</td>
<td>5,6</td>
<td>Covalent compounds, Classification of compounds, binary ionic compounds, oxidation states. Nomenclature – ionic compounds, molecular compounds and acids.</td>
</tr>
<tr>
<td>7 Oct. 16</td>
<td>3,4,5,6</td>
<td>Exam 2 Ionic compounds, Formula masses, % composition. Mole; Avogadro’s number, and chemical formulas</td>
</tr>
<tr>
<td>8 Oct. 23</td>
<td>5,6</td>
<td>Mole-gram conversions, empirical and molecular formulas. Chemical equations and balancing chemical equations.</td>
</tr>
<tr>
<td>9 Oct. 30</td>
<td>7,8</td>
<td>Types of reactions. Stoichiometry; limiting reagent, % yield</td>
</tr>
<tr>
<td>10 Nov. 6</td>
<td>5-8,9,10</td>
<td>Exam # 3 Electrons, electrons subshells, electron orbitals, electronic configurations, orbital diagrams, classification of elements, periodicity</td>
</tr>
<tr>
<td>11 Nov. 13</td>
<td>9</td>
<td>Quantum-Mechanical Orbitals Electron configurations and the periodic table.</td>
</tr>
<tr>
<td>12 Nov. 20</td>
<td>10</td>
<td>Chemical bonds, valence electrons, octet rule Molecular geometry, electronegativity</td>
</tr>
<tr>
<td>14 Nov. 27</td>
<td>9,10</td>
<td>Exam # 4 Solution concentrations, dilutions and stoichiometry.</td>
</tr>
<tr>
<td>15 Dec. 4</td>
<td>13</td>
<td>Electrolytes, solubility rules, dissociation reactions, single replacement, double replacement reactions.</td>
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<tr>
<td>16 Dec. 11</td>
<td>16</td>
<td>Total and net ionic equations, review. Exam # 5</td>
</tr>
<tr>
<td>17 Dec. 18</td>
<td>Cumulative</td>
<td>Final Exam</td>
</tr>
</tbody>
</table>
• **Course Competencies**: See attachment