



**attached Tentative Syllabus. Homework will be assigned on a regular basis to help you learn and practice the details of chemistry. It will not be collected or graded, but will be discussed in class and/or answers will be provided for self-checking purposes. *It is extremely important that you attempt the homework exercises – it will prepare you for the quizzes and tests, as well as aid you in your understanding of chemistry.***

There is much material to cover – and time is short, really – so keep ‘plugging away’ at it; a consistent effort pays back much more than last-minute ‘cramming’. And don’t forget to seek help when you need it. I will make myself as available as possible; sometimes a short phone call can clear something up for you. Don’t forget that other NKU chemistry faculty members are on campus and can help you. Try to find a ‘study buddy’ to help each other. I generally offer help session(s) before each test at a time(s) convenient to me and the majority of students. I will also provide a ‘test preview’ before each test to aid you in preparing for it. Good luck in your study of the interesting and important world of chemistry!

You will need a scientific type calculator. I recommend a solar (light-powered) kind. It does not have to be a graphing type calculator (unless you already have one). A suitable calculator can be purchased for around \$12 – 20 in many stores – look for sales! A notebook (for lecture notes) and some folders with pockets (to keep handouts, tests, quizzes, etc.) will also be helpful to have on hand.

A **Tentative Syllabus** for the course is attached. This will be subject to adjustments as the course develops, but Quiz and Test dates are firm, unless you are notified otherwise. The numbers in [ ] refer to chapters and sections in your text where information pertinent to the topic may be found.

Refer to the NKU Catalog of Courses for important dates concerning dropping the course, etc. Also, if you cannot finish the course, please do not just ‘stop coming’, as happens many times. Visit the Bursar’s Office to officially withdraw [‘W’]. Otherwise, I have no choice at the end of the course but to assign a grade of ‘F’.

# TENTATIVE SYLLABUS

|                    |              | <u>Tues</u>  |           | <u>Thurs</u>   |
|--------------------|--------------|--|-----------|--|
| <b>JAN</b>         | <b>13</b>    | Introduction [1.5; 2.2-5; 4.5]<br>Sci. notation; Ratio % Proportion<br>Metric system; Chemical symbols           | <b>15</b> | Factor-label method [2.6-8;<br>Gross structure of atoms 4.1-5,<br>Isotopes                               |
| 3.4;<br>8 ]        | <b>20</b>    | Density / use of formulas [2.9; 4.1,<br>Atomic weights / 'weighted average' ; Formula weights                    | <b>22</b> | <b>{Q-1}</b> % composition [6.6-8;<br>Empirical formula<br>Significant figures                           |
| 2.3-4]             | <b>27</b>    | Molecular formulas [6.9; 9.5,6<br>Electron arrangement / notes<br>importance of<br>Error analysis / simple stats | <b>29</b> | <b>{Q-2}</b> Periodic Table [4.6; 9.7-<br>Regions of / relation to<br>electron<br>"Facts About Atoms"    |
| 8 ]<br>arrangement | <b>FEB 3</b> | Ion formation [4.7; 5.5-7]<br>Ionic bonding / nomenclature   | <b>5</b>  | <b>TEST 1</b>  |
| 3.7;<br>equations  | <b>10</b>    | Trends on P – Table [4.6; 9.7,8 ]<br>Transition metals / polyatomic ions<br>Properties of ionic compounds        | <b>12</b> | Lewis symbols [5.8,10;<br>Covalent bonding 7.3,4 ]<br>nomenclature; Balancing                            |
| 10.8]              | <b>17</b>    | Diatomic elements [Notes; 7.10]<br>Multiple bonds<br>Types of reactions  | <b>19</b> | <b>{Q-3}</b> Coordinate bonds [6.3;<br>Violations of Rule of 8<br>Bond polarity / electro-<br>negativity |
| [notes]<br>mole-   | <b>24</b>    | Mole concept [8.2-4; 10.7,8]<br>Avogadro's number<br>Molecular polarity ' influence of<br>shape of molecule      | <b>26</b> | <b>{Q-4}</b> VSEPR method for<br>determining shapes of<br>cules; consequences of                         |
| <b>MAR</b>         | <b>2</b>     | Stoichiometry I [8.1-4]  | <b>4</b>  | <b>TEST 2</b>  |
|                    | <b>9</b>     | <b>Spring Break</b>  | <b>11</b> | <b>Spring Break</b>  |
| ]                  | <b>16</b>    | Stoichiometry II [8.5,6 ]<br>% Yield<br>limiting reactant  | <b>18</b> | Intro to states of matter [12.1<br>Changes of state / KE vs. IMF   |

|            |           |              |   |                    |           |   |        |
|------------|-----------|--------------|---|--------------------|-----------|---|--------|
| 3]         | <b>23</b> | <b>{Q-5}</b> | Types of IMF<br>Solids / Liquids I  | [12.3-8]           | <b>25</b> | Liquids II<br>Gases: temperature & pressure                                       | [11.1- |
| <b>APR</b> | <b>30</b> | <b>{Q-6}</b> | Charles's Law /<br>Boyle's Law / format for solving<br>gas law problems<br>Intro to solutions | [11.4,5; 13.1-4]   | <b>1</b>  | Gay'Lussac's Law<br>'Combined' gas laws<br>Solubility / solubility curves         | [11.6] |
|            | <b>6</b>  |              | Ideal Gas Equation<br>Electrolyte vs. non-electrolyte sol'ns                                  | [11.8,9; 13.3,6]   | <b>8</b>  | <b>TEST 3</b>   |        |
| <b>APR</b> | <b>13</b> |              | Intro to acids/bases<br>pH scale / Arrhenius Theory   | [[12 ]             | <b>15</b> | Applications of Ideal Eq'n<br>Bronsted-Lowry Theory                               | [11.8  |
| [          |           |              |   |                    |           |   |        |
|            | <b>20</b> | <b>{Q-7}</b> | Colligative<br>properties of solutions<br>Molality ; molecular weight<br>calculations         | [13.7-10;<br>14.5] | <b>22</b> | Intro to oxidation–reduction<br>Oxidation numbers<br>Survey of redox applications |        |
| [16.1-3]   |           |              |   |                    |           |   |        |
|            | <b>27</b> | <b>{Q-8}</b> | Neutralization<br>reactions / Titrations<br>Indicators  | [14.6,9]           | <b>29</b> | Course Evaluation<br>Exam Review  |        |
| <b>MAY</b> | <b>4</b>  |              | <b>Final Exam</b>   | <b>6:45 – 8:45</b> |           |   |        |