

Dr. Robert K. Wismer    **Welcome to Introductory Chemistry I**    CHEM 111, Fall 2009  
Robert.Wisner@Millersville.edu    214 Caputo, 872-3661    MWRF 9:30-10:30, T 2-3 & by appt.

You may be apprehensive about chemistry. It has the reputation of being difficult. It certainly is not easy, for several reasons. First, vocabulary: a beginning student of chemistry may learn as many new words as a student studying the first year of a foreign language. Second, there are many "rules" that govern chemical behavior that we use for predictions. Yet these rules have many exceptions. Third, you need to obtain precise results from many types of calculations, a goal that may not have been the case in your previous study. Finally, chemistry is a vertical discipline; later material depends heavily on what came before. But a very common reason why students find chemistry hard is that they do not heed their instructor. If the instructor says learn or memorize something, they wait until the night before the exam; and then the exam is hard. But even learning all that material the night before the exam was hard, because they needed the information they should have learned before to understand new material as it occurred in class.

This means it is important to keep up in your study of chemistry. You cannot possibly learn the material by studying just the day (or few days) before each examination, although students have tried (and, unfortunately, failed!). It is reasonable to study one to two hours each night of the week. Study every night, much like an athlete in training. If you have very little time on a given night—perhaps because of an examination or a paper in another course—make sure to spend some time studying chemistry, even if only 30 minutes. If you routinely spend more than an honest three hours each day on chemistry, you probably are studying inefficiently. Ask me for advice. In addition, we will spend some time in class discussing how to solve problems and how to study chemistry.

When you have a question about any of the material covered, please ask! Ask as soon as the question occurs to you, in lecture or recitation, after class, during my office hours, or via e-mail. It helps to try to answer a question on your own first. If you have done so, the answer you finally obtain, even if furnished by someone else, will make more sense to you. If you are having difficulty and you have not contacted me (or if you habitually wait until the last minutes), then you simply are not getting your money's worth for your tuition.

Please hand in assignments on time and in the way requested, and follow the course policies given on these pages. I cannot spend as much time helping you individually with learning chemistry if time is consumed reminding students to hand in work, deciphering sloppy work, etc. Improperly done work will be handed back for you to redo. To encourage you to stay current, late work is penalized 20% of its possible score for each class day late.

### **Course Materials:**

TEXT: *Principles of Chemistry*, 1st ed., Nivaldo Tro, Prentice-Hall Publishing Co., 2010.

A CALCULATOR that has log, ln,  $10^x$  (antilog), and  $e^x$  functions.

LABORATORY MANUAL: *Experiments in General Chemistry*, Gerald S. Weiss, Thomas G. Greco, Lyman H. Rickard, Prentice Hall Publishing Co., 2007. (Some experiments may be replaced by handouts.)

LABORATORY NOTEBOOK: **MUST** be bound (no ring binders) approximate size 7 × 9.5", quadrille ruled. Carefully follow the instructions for the laboratory notebook on pages 10 AND 11 of the laboratory manual.

LABORATORY SAFETY GOGGLES: Available in the laboratory storeroom (STC-330, ≈\$7) and the bookstore. You **MUST** wear goggles whenever you are in laboratory, even if just visiting.

MOLECULAR MODEL KIT: Available from the ACS student group (STC-330, ≈\$3 or ≈\$13), or commercially (≈\$20).

COMBINATION PADLOCK for your laboratory drawer.

**Tests:** To encourage you to stay current, there are frequent and numerous (six) half-hour tests scheduled on the dates indicated (II) in the class schedule. The coverage of each test is mainly the material discussed since the last test. There is some material from previous tests because chemistry builds on all material covered in the course.

**Nomenclature:** Although mastering the new vocabulary of chemical nomenclature is mainly memorization, you will flounder in the course unless you know it thoroughly. For instance, you must know nomenclature to be able to write chemical equations. Each recitation begins with a nomenclature quiz; once you become proficient, these quizzes shift to equation writing, and then redox equation balancing.

**Problem Assignments:** We learn to solve problems by practice. There will be a problem assignment every class day; it is due at the start of the next lecture. Please work your problems on 8.5 × 11" paper, with straight edges. (Both sides of the paper in pencil is O.K., but tear off the nibs.) Problem assignments are marked on whether you attempt each problem and make progress toward a solution; a problem restatement is not an attempt. Each problem assignment is worth five points. Because solutions are available in lecture, late assignments are not accepted. Before the start of each lecture, write on the board the problem that gave you the most difficulty; one of these will be worked in class.

**Course Policies:** If you have an objection to any aspect of the course, please communicate it (anonymously or otherwise) to the instructor. Because of "academic freedom," neither department chair nor dean can do as much to help.

**Plagiarism** is submitting someone else's work as your own, including copying lab reports or problem assignments without giving credit. Penalty ranges from zero for the assignment plagiarized to a course grade of "F." That penalty becomes part of your official record. We may penalize both the copier and the one copied from for, since we cannot tell who copied. However, we encourage working together on problems. To protect yourself from the charge of plagiarism, simply write something like: "I received help from Joe Smith on this part," or "I helped Sue Jones on this part."

**Absences: YOU ARE RESPONSIBLE** for obtaining notes from a classmate for a missed class, whether excused absence or not. You must arrange to make up any missed work. Absences may be excused for university-sponsored events, jury duty, military duty, death or critical illness in immediate family, or personal illness. Support each excuse request with a written statement of the absence's reason, signed by the responsible person (coach, faculty member, judge, commander, physician), including their phone number. Death or illness requests presented more than one week after returning to classes are **INVALID**. Other excuse requests **MUST** be presented **BEFORE** the absence's date. Personal illness excuse is valid **ONLY** if a physician states you were too ill to come to class. Doctor's appointments & medical tests are **NOT** excused absences. Do not expect to miss more than four classes for any reason and still pass the course. (In the course are enough extra credit points to make up for an unexcused absence.) Excused quiz and test points after the first twenty are made up at the time of the final, with questions on the entire course.

**Course Grading:** In order to pass the course, you must perform all experiments, turn in all lab reports, and earn a lab grade of 60% (120 points) or more. You must also earn a lecture grade of 60% (420 points) or more.

Eight (8) experiment reports (none for Expt. 6)	120 points	A	≥90%	≥810 points
Eight (8) prelab quizzes (none for Expt. 0)	40 points	B	≥80%	≥720 points
Identification of Common Chemicals (Expt. 6)	40 points	C	≥70%	≥630 points
Recitation quizzes (10 points each)	120 points	D	≥60%	≥560 points
Six tests (50 points each)	300 points	F	<60%	<560 points
Problem assignments	100 points	minus is _0, _1, _2; plus is _7, _8, _9		
Final examination	180 points			

### TENTATIVE LECTURE, TEST, & LABORATORY SCHEDULE

**Boldface** numbers are dates of the month. The chapter (number and abbreviated title) expected to be covered in lecture is given on the appropriate lecture day. The laboratory experiment (number and abbreviated title) for each week is given in the "Tuesday" space. Each half-hour, 50-point lecture test is indicated with **T**

Chemistry 111      2 June 2009 version      Fall 2009 Tentative Schedule

Monday	Tuesday	Wednesday	Thursday	Friday
<b>31</b> 1.Matter,Measure	<b>1</b> 0.QuickDensity	<b>2</b> 1.MatterMeasure	<b>3</b>	<b>4</b> 1.MatterMeas. <del>DROP</del>
<b>7</b> LABOR DAY	<b>8</b> 2.HydrateForm.	<b>9</b> 2.AtomElements <del>ADD</del>	<b>10</b>	<b>11</b> 2.AtomElements
<b>14</b> 2.AtomElements	<b>15</b> 2&6CommChem	<b>16</b> 3.ChemEquatns <b>T</b>	<b>17</b>	<b>18</b> 3.ChemEquatns
<b>21</b> 3.ChemEquatns	<b>22</b> 6.CommonChem	<b>23</b> 4.ChemRxns	<b>24</b>	<b>25</b> 4.ChemRxns
<b>28</b> 4.ChemRxns	<b>29</b> 7.Titration	<b>30</b> 4.ChemRxns	<b>1</b>	<b>2</b> 5.Gases
<b>5</b> 5.Gases	<b>6</b> 10.EvaluateR	<b>7</b> 5.Gases	<b>8</b>	<b>9</b> 5.Gases <b>T</b>
<b>12</b> FALL BREAK	<b>13</b> FALL BREAK	<b>14</b> 6.Thermochem	<b>15</b>	<b>16</b> 6.Thermochem
<b>19</b> 6.Thermochem <b>T</b>	<b>20</b> 8.Grav&Vol	<b>21</b> 7.QM Atom	<b>22</b>	<b>23</b> 7.QM Atom
<b>26</b> 7.QM Atom <b>27</b>	<b>8</b> & <b>11</b> .Thermo	<b>28</b> 8.PeriodProps	<b>29</b>	<b>30</b> 8.PeriodProps
<b>2</b> 8.PeriodProps	<b>3</b> 11.Thermochem	<b>4</b> 8.PeriodProps <b>T</b>	<b>5</b>	<b>6</b> 9.LewisTheo <b>w</b>
<b>9</b> 9.LewisTheo	<b>10</b> 12.Aspirin	<b>11</b> 9.LewisTheo	<b>12</b>	<b>13</b> 9.LewisTheo
<b>16</b> 10.ShapesValBond	<b>17</b> 12.Aspirin	<b>18</b> 10.ShapesValBond	<b>19</b>	<b>10</b> 10.ShapeValBond <b>T</b>
<b>23</b> 10.ShapesValBond	<b>24</b> 13.MolecModel	<b>25</b> THANKS-	<b>26</b> GIVING	<b>27</b> BREAK
<b>30</b> 11.Liq&Solid	<b>1</b> 6.CommonChem	<b>2</b> 11.Liq&Solid	<b>3</b>	<b>4</b> 11.Liq&Solid
<b>7</b> 11.Liq&Solid	<b>8</b> 6.TimedTest	<b>9</b> 12.Solutions	<b>10</b>	<b>11</b> 12.Solutions <b>T</b>
<b>14</b> 12.Solutions	<b>R E S T R U C T U R E D W E E K</b>			<b>18</b> FINAL 8-10 a.m.