

# Chemistry – The Study of Matter

## Chemistry C051

Fall 2005

Mondays and Wednesdays 9:40-11:30

This is an introductory chemistry course designed for non-science majors or those who may wish enter a scientific field in the future but feel that they need a better background before doing so. The course will meet for a total of four hours per week: Mondays and Wednesdays from 9:40 to 11:30am in Beury Hall 166. The format of the class periods will include lecture, demonstrations, discussion, and quizzes. The instructor for the course is Dr. Donald Titus, whose office is Beury 216, phone (215) 204-7127; he is best reached by email at [dtitus@temple.edu](mailto:dtitus@temple.edu). Office hours for Dr. Titus are Mondays and Wednesdays 2:30-3:30pm and Tuesdays 10:30-11:30am, although he will be happy to help you with problems at other times if he is not already busy with another student.

**Text and tools:** The text for this course is *Chemistry for Changing Times*, by John W. Hill and Doris K Kolb, Tenth Edition, Pearson Prentice Hall, Upper Saddle River, New Jersey, 2004. There will be additional handouts covering special topics; these will be distributed in class. Lecture slides used in class will be posted on **Blackboard**, but the lectures will not be recorded (unless, of course, you chose to do so yourself.) You will need a notebook for recording lecture notes and the data collected during the lecture demonstrations. Most students find a hand calculator to be helpful. Although this does not need to be a highly sophisticated “scientific” calculator, it should be one which has the ability to deal with exponential (sometimes called “scientific”) notation and logarithms.

**No absence/No lateness/No early departure:** Chemistry is a discipline which requires, not surprisingly, discipline. Therefore, you will be expected to attend all classes, arrive on time, and not leave until the class is over. See Dr. Titus if you encounter an emergency; you may be asked for documentation to support your claim. Attendance will be taken at the beginning of every class by means of a short **quiz** (*closed book, notes, and mouth*), based on material discussed previously in the course. If you arrive late, you will miss the quiz (there will be no make-up), and may be marked absent for the day. Two or more absences will result in a recommendation that you drop the course. Early departures will be dealt with on an individual basis.

**Quizzes, Exams, and Grades:** Each of the daily quizzes will be worth 5 points, the first and second exams will each be worth 125 points, and the final exam will be worth 200 points. The quizzes will generally be based on the most recent material covered; the exams will be based upon all material from the beginning of the course up through (and including) the material discussed one week prior to the day of the exam. Letter grades will not be assigned for individual quizzes and exams, but a letter grade for the course will be assigned at the end of the term based upon the total of all homework, quiz, and exam scores. The letter grades will be dependent upon how well each student’s score compares to the scores of the other students in the class. (In other words, there will be a curve.)

**Privacy Concerns:** In order to protect your privacy, and at the same time allow us to publicly post results of exams and quizzes, you will be identified in this course by a six-digit number. This will comprise the last six digits of the ID number assigned to you by the University. Students at Temple prior to this past summer should note that all old ID numbers have been changed; you will need to memorize a new number. If you do not know what this number is in your case, see Dr. Titus.

**Homework:** You can never be comfortable with the concepts of a discipline unless you can deal with questions and problems easily. There is no way to do this but to practice. It is, of course, essential that you do your own work, and do not depend upon others for the answers. However, we recognize that students often work together, and in fact, may actually profit from such collaboration. In order to encourage you to actually do the end of chapter questions and problems in the text, we have set up five written homework sets. They will be due on the dates listed in the attached calendar; no late work will be accepted. Your papers should be neat and clearly printed or written; papers that are difficult to read will not receive credit. **Homework 1** will be worth a maximum of 15 points; **Homework 2**, 10 points; **Homework 3**, 15 points; **Homework 4**, 10 points; and **Homework 5**, 20 points.

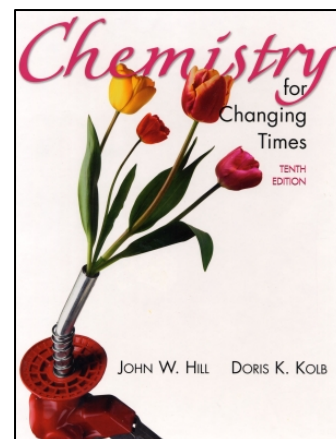
Hmwk 1: *Chapter 1:* 2, 8, 10, 12, 22, 24, 34, 36, 38, 40, 42, 44, 50, 52, 54, 56, 58, 60, 62, 64, 68, 70, 72, 74

Hmwk 2: *Chapter 2:* 7, 10, 18, 22, 24, 26, 28, 34, 36, 38, 40, 42, 44

Hmwk 3: *Chapter 3:* 4, 10, 11, 16, 18, 23, 24, 28, 30, 32, 34, 36, 42, 44, 50, 52, 54, 56, 58, 60, 62, 64, 68, 70, 76, 80

Hmwk 4: *Chapter 4:* 2, 6, 8, 10, 12, 14, 16, 18, 26, 36, 38, 42, 44, 46, 48, 54, 60, 66

Hmwk 5: *Chapter 5:* 2, 4, 5, 6, 8, 10, 12, 14, 16, 20, 22, 24, 26, 32, 34, 38, 40, 42, 44, 46, 48, 50, 52, 54, 56, 58, 62, 64, 66, 68, 72, 74, 76, 78, 80



# Chemistry C051 - Fall 2005

This calendar is tentative; changes may be made if the progress of the course requires. Topics in lecture will sometimes be presented in a different order than they appear in the text.

## Mondays

## Wednesdays

<b>Aug 29</b> Chapter 1 Scientific laws & theories; physical properties	<b>Aug 31</b> Chapter 1 Classification of matter; heat and temperature
<b>Sept 5</b> Labor Day <i>No classes will meet on this day.</i>	<b>Sept 7</b> Chapter 1 Measurement and units; density
<b>Sept 12</b> Chapter 1 Critical thinking; coming to grips with reality	<b>Sept 14</b> Chapter 2 Homework 1 due The atom: development of the concept
<b>Sept 19</b> Chapter 2 Relating chemistry to the concept of atoms	<b>Sept 21</b> Chapter 3 Atoms – their complicated nature
<b>Sept 26</b> Chapter 3 Developing theories which explain atomic behavior	<b>Sept 28</b> <i>First Exam</i>
<b>Oct 3</b> Chapter 3 Electron configurations and the Periodic Table	<b>Oct 5</b> Chapter 4 Homework 2 due The nature of atomic nuclei. Isotopes: stable and unstable
<b>Oct 10</b> Chapter 4 Unstable atoms: radioactivity and the nucleus	<b>Oct 12</b> Chapter 4 Half lives
<b>Oct 17</b> Chapter 4 Nuclear energy	<b>Oct 19</b> Chapter 5 Homework 3 due Electrons as dots; ionic bonds
<b>Oct 24</b> Chapter 5 Covalent bonds	<b>Oct 26</b> Chapter 5 “Stable” electron configurations; Lewis structures
<b>Oct 31</b> Chapter 5 Molecular shapes; the VSEPR method	<b>Nov 2</b> <i>Second Exam</i>
<b>Nov 7</b> Chapter 5 Intermolecular forces	<b>Nov 9</b> Chapter 5 Homework 4 due Solutions
<b>Nov 14</b> Chapter 6 Balancing chemical equations	<b>Nov 16</b> Chapter 6 Volume and the “mole”
<b>Nov 21</b> Chapter 6 Mass relationships	<b>Nov 23</b> ( <i>Considered a FRIDAY by Temple</i> ) <i>C051 will not meet on this day.</i>
<b>Nov 28</b> Chapter 6 Moles as measures in chemical equations	<b>Nov 30</b> Chapter 6 Homework 5 due The behavior of gases
<b>Dec 5</b> Chapter 6 Solutions and concentration	<b>Dec 7</b> ( <i>Last day of classes</i> ) Chapter 6 Review
<b>Dec 12</b> <i>C051 will not meet on this day.</i>	<b>Dec 14</b> <i>Final Exam 8:30-10:30 am</i>