

**WIDENER UNIVERSITY**  
**THE IMPLICATIONS OF CHEMISTRY**  
**CHEM100**  
**SPRING 2006**  
**COURSE SYLLABUS**

**INSTRUCTOR:** Dr. Andrea E. Martin  
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**OFFICE HOURS:** Monday, Wednesday, Friday 10:30 – 11:30 a.m.  
Thursday 1:00 – 3:00 pm

**TEXTS AND SUPPLEMENTARY MATERIAL:**

**(Required)** *Chemistry in Your Life*, by Colin Baird and Wendy Glofke, W.H. Freeman and Company, 2003.

A calculator is necessary, but it does not have to be expensive. The only functions that you will need besides addition, multiplication, etc., are common logarithms (log), natural logarithms (ln), and their inverses  $10^x$  and  $e^x$ . Your calculator should also be capable of accepting and displaying numbers in scientific notation.

CHEM100 is designed as a one-semester, introductory college chemistry course for students that are business, humanities, and social science majors. The goals of this course are first to develop an appreciation for the molecular world and the fundamental role it plays in daily life, and second to develop an understanding of some of the major scientific and technological issues affecting our society. Every attempt will be made to incorporate everyday topics as they relate to chemistry. In order to understand the concepts presented in this class you must keep up with the homework. If you have problems understanding concepts, seek my help. That is why I am here. A word of advice, **do not wait until the night before the exam to study for the exam.** By keeping up with the homework, studying for the exam should simply be a review of past homework and/or quizzes.

**CLASS SCHEDULE:**

Monday, Wednesday, Friday 9:00 - 9:50 a.m.  
Room 235 Kirkbride  
No class March 6-10 (Spring Break), April 14 (Spring Holiday) and April 21 (Senior Projects Day)

## GRADING SYSTEM

The course will be graded on the +/- system. The grading will be weighted as follows:

One-hour in-class exams (4)	60%
Quizzes (9)	15%
Attendance/in-class participation	5%
Research Paper	20%

**Hourly Examinations** Four (4) hourly exams each worth 15% of grade

Exam I	Friday, Feb. 10, 2006
Exam II	Friday, March 3, 2006
Exam III	Friday, April 7, 2006
Exam IV	Wednesday, May 3, 2006

**Regular quizzes**, worth 15 % of grade. Each quiz will be worth 10 points and will be given at the end of lecture each Friday. **There will be no make-up quizzes given.** If you have a valid documented excuse, you will be excused from the quiz. Otherwise, any missed quizzes will count as a zero (0). If all nine (9) quizzes are taken, the lowest quiz score will be dropped.

**Research Paper** worth 20% of grade. You will be responsible for researching a specific molecule and writing a research paper (4 to 6 double-spaced pages). I will hand out a list of molecules and you will choose one or you may choose a different molecule as long as it is approved by me. Please choose a molecule that interests you!

You will research this molecule finding out its history including who discovered it, how this molecule is made, and describe the uses of this molecule. **The required chemical information that must be present is a picture of the molecule (Lewis structure), the molecular formula, the common name, the systematic name and at least four (4) physical properties of the molecule.**

The paper **must** be typed. The paper must include an introduction paragraph, a conclusion paragraph, and must have a logical flow including topic sentences. Grammatical, syntax, and typographical errors are not acceptable. If you have a problem writing research papers, you should seek help from the Writing Center. The paper must include a proper bibliography containing all of your sources. You must use at least three sources for your paper, one of which may be your textbook. In addition, **only one of these sources may be from the Internet.** Be sure that any information that was not your prior knowledge is referenced properly in your paper. **Plagiarism is academic dishonesty and will result in a failing grade for this course.**

There will be a lottery drawing to determine when the rough draft of your research paper is due. Once I return the rough draft to you, your final paper is due two weeks from that date. You will not receive a letter grade for the rough draft. However, I will deduct five (5) points for every day that your rough draft is late. The same rule applies to the final paper.

<u>Numbers</u>	<u>Rough Draft Due Date</u>
1-5	February 22, 2006
6-10	March 1, 2006
11-15	March 15, 2006
16-20	March 22, 2006
21-25	March 29, 2006

**No extra credit work will be given in this course.**

### **Make-ups:**

Make-up examinations will not be given unless there is a valid, documented medical excuse or a death in the family. Both of these excuses must have documentation supplied in order for you to make up the exam. This documentation must be supplied to me within 24 hours of the missed examination. An unexcused absence from an examination will result in a zero (0) for that examination.

### **Attendance Policy**

I do take roll in lecture. Punctuality for lecture is a courtesy that is expected. See me if you have a problem making class on time. Read the student handbook regarding school policies on attendance. "A student may receive a failing grade, if the number of absences in a semester exceeds **twice** the number of weekly class meetings." (*Undergraduate Student Handbook*) This policy is in effect for Chemistry 100. It is expected that you will maintain faithful class attendance. If a situation arises that necessitates your absence, please notify me **BEFORE** the class period that will be missed. Otherwise any in class activities cannot be made up. In the event of a University excused absence, the approved University policy will be followed.

### **Academic Honesty**

All measures will be taken to ensure that the grades awarded to the students reflect their genuine effort and achievement. Cheating or dishonesty in any form will not be tolerated and will result in a failing grade for the course. Please read the section on the 'academic honesty policy' in the Fall 2005 schedule book.

**The Science Division and the Chemistry Department strictly enforce University policy on cheating and other forms of academic fraud. All work on examinations, quizzes, reports, and other assignments is expected to be your own.**

### **Grievance Procedure**

Please refer to the student handout, see me, or visit the Science Office if you have a problem.

## Syllabus Modification

I reserve the right to change or modify the syllabus throughout the semester if needed. All changes will be announced in class and posted on Campus Cruiser. You are responsible for any changes even if you are not present in class when they are announced.

### End of Chapter Assignments

Please bring your text and a calculator to each lecture period.

#### Problem Assignments:

- Chapter 1. Atoms, Molecules, Elements, Compounds, Mixtures, and States of Matter  
1, 3, 4, 6, 7, 9, 10, 11, 13, 14, 15, 19, 20, 21, 22, 23, 27, 29, 33, 34, 39, 40, 43, 44, 45, 52, 53
- Chapter 2. Physical and Chemical Change  
1, 2, 3, 5, 7, 11, 13, 14, 15, 16, 17, 20, 22, 27, 28, 30, 31, 35, 36, 40, 41, 44, 45, 46, 49, 51
- Chapter 3. The internal Working of Atoms and Molecules  
2, 3, 4, 6, 7, 8, 8, 13, 14, 16, 18, 19, 20, 23, 24, 25, 26, 27, 31, 37, 38, 39, 40, 42, 52, 53, 64, 65, 71, 72, 76
- Chapter 11. Chemistry in Water  
3, 5-8, 14-26, 29, 31, 34, 40, 43, 48, 49, 51, 53-57, 59, 61, 62, 64, 67
- Chapter 4. Hydrocarbons and Fossil Fuels  
1, 2, 3, 4, 6, 7, 8, 9, 12, 14, 15, 16, 18, 19, 21, 25, 28, 29, 30, 31, 32, 34, 36-38, 43, 44-46, 47, 51, 54
- Chapter 5. Carbon: Addition Polymers, Elemental Forms and Substituted Hydrocarbons  
1-7, 9-12, 15, 17, 21, 22-25, 28, 29, 31, 32, 40, 51, 53, 54, 55, 56, 61-64
- Chapter 6. The Oxygen-Containing Organic Compounds We Drink, Smell and Taste  
1 – 61 odd
- Chapter 7. Minerals, Carbohydrates, Fats, Oils, and Steroids  
1 – 67 odd