CHEMISTRY 100 – GENERAL CHEMISTRY
SUMMER 2001

Syllabus – Please Keep for Future Reference

Instructor: Jim Schneider
ST 312
977-4618
e-mail: jschneid@pcc.edu (office - weekdays)
jpschnei@earthlink.net (home - weekends)

Lecture: 9AM - 12 PM MW; ST 101

Office Hours: M, W 4-5 PM
Or by appointment

Required Materials:

TEXT: "Introduction to Chemical Principles" 6th Ed, by Stoker

LAB MANUAL: "Laboratory Exercises for Prepatory Chemistry" by Kathy Dods Tyner

Laboratory Goggles

Scientific Calculator (the inexpensive kind for about $20 is fine)

Recommended (optional) Accessory Components:

3-ring binder

Student Solutions Manual

Class Web page: http://spot.pcc.edu/~jschneid/100Su/100.html

GOALS: This course will emphasize you as an active participant in the construction of new knowledge. This means that lectures will require your participation, that much of your learning will take place through your interaction with your peers, and that we will try to move away from rote memorization of facts to a deeper understanding of how chemistry works and how we do chemistry.

LABORATORY: The goal of the laboratory is to develop useful laboratory skills, to observe chemical and physical properties of matter first-hand, and to learn how measurements are made and interpreted. In the majority of the lab work, you are expected to work collaboratively with your classmates, yet summarize your results in individual reports. A SCHEDULE OF THE WEEKLY LABS CAN BE FOUND ON THE FOLLOWING WEB PAGE:

http://spot.pcc.edu/~jschneid/100Su/lab.html
**Quizzes:** There will be a quiz each lab day in this course, except on exam days. This makes for a total of 7 quizzes. Only the best 6 quizzes will be counted. Quizzes will be given at the beginning of laboratory period each day. Quizzes will cover material from the previous days lecture, as well as the previous lab.

**Laboratory Late Work Policy:** This will be determined by your laboratory instructor.

☐ You will be required to wear appropriate attire in the laboratory. This includes mandatory goggles at all times in the lab, unless the instructor indicates it is OK not to. Also, you cannot wear sandals or open-toed shoes to the lab, and long pants are recommended. Also, it is recommended, though not required, that you do not wear contact lenses in the lab.

**An Inexpensive Calculator:** You will need a calculator capable of manipulations in scientific (exponential) notation and capable of handling problems involving logarithms and exponentials (base 10 and base "e"). The calculator will be used in all phases of the course. Bring it to lecture, lab, recitation, and exams.

**Course Format**

**Lectures:** The lectures (MW at 9:00 am in ST 101) will provide the general outline for all learning activities in the course. We will take a short 10-15 minute break approximately half-way through the lecture period. Additionally, some time will be spent during this period for group in-class activities.

While you will be responsible for all material covered in lecture, there will be other material assigned that may not be covered. This will primarily be covered in the text, outside readings, World Wide Web assignments, and problems.

Please feel free to contact me with any questions, comments, etc., concerning the course. Electronic mail (email) is a particularly convenient way of communicating.

**Problem Sets:** You will receive problem sets approximately on a weekly basis. Each problem set will contain a number of challenging problems, which are designed to help you learn to apply chemical principles to real-world problems. Your problem sets will be graded on a low-resolution scale for the completion of the work:

<table>
<thead>
<tr>
<th>0</th>
<th>10</th>
<th>15</th>
</tr>
</thead>
<tbody>
<tr>
<td>Little or none of the work is completed.</td>
<td>An honest attempt is made to complete the assignment.</td>
<td>The assignment is complete, answers are well thought out, neat and organized.</td>
</tr>
</tbody>
</table>

Note that intermediate grades can be assigned depending on the quality of the work.

**Late Work Policy:** Homework will be penalized 1 point for each day late. The ONLY exception is if you make arrangements with the instructor ahead of time.

**Exams:** There will be three exams in this course. Two midterms and a final. Each exam is approximately 15% of your total grade. There will be no make-up exams
**Grading:** All grading is done on an absolute scale, not on a curve. Helping another student cannot hurt your grade, but will enhance your learning. Grades will be determined as follows:

<table>
<thead>
<tr>
<th>Component</th>
<th>Points</th>
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</thead>
<tbody>
<tr>
<td>Exams</td>
<td>300</td>
</tr>
<tr>
<td>Problem Sets</td>
<td>90</td>
</tr>
<tr>
<td>Quiz</td>
<td>60</td>
</tr>
<tr>
<td>Lab</td>
<td>140</td>
</tr>
<tr>
<td>In-Class Assignments</td>
<td>60</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>650 points</strong></td>
</tr>
</tbody>
</table>

The grading scale is:

- **A** 90% 585 points
- **B** 80% 520 points
- **C** 65% 422 points
- **D** 55% 357 points
- **F** <55% <357 points

**Email, the World Wide Web and the Internet:** There will be occasions in this course when you will be referred to or required to visit sites on the World Wide Web (WWW), and also to use email and other internet features. If you have a computer at home with Internet hookup from an Internet service provider (ISP), then you can log on to all course internet activities from home. If you do not have such access, EVERY student at PCC is eligible to obtain access to the Internet through the...

**Computer Resource Center (CRC)** [Macintosh and Windows machines]
Room CC 206 (College Center)
Phone: 503-977-4325
Hours:  M-Th:  8 AM - 9:45 PM
        F, Sat:  9 AM - 4:45 PM
        Sun:    12 PM - 4:45 PM
Printing from Web: FREE at this time!

To obtain your own email account and Internet access, go to the CRC, and let them know you wish to obtain an account. They will ask you to go through a 15-minute or so training, after which you will receive your account, and will have access to the use of the computers in the CRC.

Use of your Internet access will be most valuable in contacting me through email and using the course web pages. I *strongly* suggest that you use it.

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**Cheating Policy:** Although this course encourages students to work with others on assignments, it is expected that all work turned in will be in the student’s own writing. Copying and plagiarism, or aiding and abetting cheating or plagiarism are not acceptable. Any students suspected of cheating will need to see the instructor and may receive a zero for the assignment. Any student caught cheating will receive a zero for the assignment, and may be dropped from the class for the term.
PCC Withdrawal Policy: It is especially important for students to withdraw themselves if:

- they decide to drop the class prior to the end of the second week of the term and want to receive a tuition refund. This is the **ONLY** way to withdraw and receive a refund.
- they decide to drop the class between the second and eighth week and wish to have a W on their academic record.

Students who stop attending and do not withdraw themselves from the class via TRAIL, the Web, or the Registration Office, will receive a No-Pass (NP) as the final grade.

Institutional Withdrawal Policy:

Faculty may institutionally withdraw registered students who do not attend the first class session.

Faculty may institutionally withdraw all students who do not attend class during the first week of the course.

Subsequent to the first week, faculty may also institutionally withdraw students who stop attending. This is completely at the discretion of the instructor and may occur through the end of the eighth week of the course. Faculty must indicate the last date of attendance.

While faculty may institutionally withdraw non-attending students within the time limits specified above, ultimate responsibility for withdrawal from a course within the specified withdrawal guidelines resides with the student.

Please Note: In order for tuition charges to be reversed and no grade assigned, students must process the drop using TRAIL, the Web, or at the Registration office during the first two weeks of the term.

Students with Disabilities
If you have a disability and need an accommodation, please make arrangements to meet with me outside of class. PCC Students requesting accommodations must provide documentation of disability and work with The Office for Students with Disabilities (OSD) at 977-4341.

The next page outlines a **Tentative** schedule of the topics to be covered.

**The topics and dates may be adjusted as the term progresses.**
<table>
<thead>
<tr>
<th>WEEK</th>
<th>LECTURE TOPIC</th>
<th>TEXT CHAPTER</th>
<th>LABORATORY EXPERIMENT NUMBERS</th>
</tr>
</thead>
</table>
| 1    | June 25       | Course introduction  
Scientific Method  
Measurement (Significant Figures)  
Measurement (Scientific Notation) | Chapters 1 & 2  
1.1-1.4  
2.1-2.5  
2.5-2.7 | 1, 2, 5, 6, 15 |
| 1    | June 27       | Unit Systems (Metric System),  
Conversion Factors  
Dimensional Analysis, Density,  
Percents | Chapter 3  
3.1-3.6  
3.7-  
3.11 | 10, 11, 12 |
| 2    | July 2        | Matter (Classification, Elements)  
Atomic Structure, Isotopes, (Atoms,  
Molecules, Formulas) | Chapters 4 & 5  
4.1-4.9  
5.1-5.9 | 20, 21, 22 |
| 3    | July 9        | Atoms, Molecules, Formulas | Chapter 5  
5.1-5.9 | Handout: Size of an Atom |
| 3    | July 9        | EXAM 1 - COVERS CH. 1-4 | | |
| 3    | July 11       | Modern Atomic Theory (Quantum Theory)  
Modern Atomic Theory (Electron Configurations, Periodic Table) | Chapter 6  
6.1-6.6  
6.7-6.12 | 24, 19  
World Wide Web Lab in Library Computer Lab |
| 4    | July 16       | Bonding (Ionic Bonding)  
Bonding (Covalent Bonding)  
Electronegativity, Polarity | Chapter 7  
7.1-7.9  
7.10-7.12, 7.16, 7.17-7.19 | 25  
Handout: Building Molecular Models |
| 4    | July 18       | Nomenclature (Ionic)  
Nomenclature (Covalent, Acids) | Chapter 8  
8.1-8.4  
8.5-8.7 | 27, 28 |
| 5    | July 23       | Chemical Equations | Chapter 10  
10.1-10.5 | 29 |
| 5    | July 25       | The Mole Concept | Chapter 9  
9.1-9.9 | 23 |
| 6    | July 30       | Solutions  
Acids and Bases  
$pH$ | Chapter 13 & 14  
13.1-13.3, 13.5-13.8  
14.1, 14.4-14.6, 14.12 | 39, 45, 47 |

**Final Exam: 9 AM - 12 PM, Wednesday, Aug 1**  
**ST 101**