ANOKA-RAMSEY COMMUNITY COLLEGE COURSE SYLLABUS

Course: Chemistry 1020 — Interpretive Chemistry, 4 credits, Fall 2005
Prerequisite: MATH 0200 or equivalent
Lecture Instructor: Professor Andrew Aspaas, Office S202
Telephone: 763-422-3481
E-mail: andrew.aspaas@anokaramsey.edu
Course Webpages: http://webs.anokaramsey.edu/aspaas/1020/
                                      http://webs.anokaramsey.edu/chemistry/Chem1020/
Office Hours: M 11:00-12:00 am, 2:00-3:00 pm (Note: Office hours subject to change)
             W 11:00-12:00 am, 2:00-3:00 pm
             F 11:00-12:00 am
Laboratory Instructors: Professor Andrew Aspaas, Office S202, 763-422-3481, andrew.aspaas@anokaramsey.edu
                    Professor Vicki MacMurdo, Office S202, 763-422-3481, vicki.macmurdo@anokaramsey.edu
                    Professor Laura Miller, Office S202, 763-422-3481, laura.miller@anokaramsey.edu
Chem Lab Manager: Office S221, 763-422-3394
Science Secretary: Bonnie Witte, Office S201, 763-422-3484, bonnie.witte@anokaramsey.edu

COURSE OUTCOMES

Upon completion of the course, the student should be able to:
1. understand and explain basic principles of chemistry using chemical vocabulary.
2. name and write chemical formulas for simple compounds.
3. complete and balance chemical equations.
4. set up and solve elementary chemical problems.
5. perform basic laboratory procedures.
6. correlate lecture topics with laboratory procedures and practical applications.

MATERIALS NEEDED

Lab Manual: Interpretive Chemistry Laboratory Manual, Fall 2005 Semester Version, ARCC Staff
WebAssign Cards, available at the ARCC bookstore checkout
Scientific calculator (with LOG button)
Outside-class access to an internet-connected computer at home or using the ARCC computer labs

ADDITIONAL RESOURCES

Study Guide and Solutions Manual
Website Links: Available at http://webs.anokaramsey.edu/chemistry and http://webs.anokaramsey.edu/aspaas/
On-Campus Tutoring: Schedule will be posted at http://www.anokaramsey.edu/StudentServices/cr_chemistry.cfm
and at the Academic Support Center
LABORATORY

Laboratory attendance is mandatory and experiments must be performed at the assigned time. If you must be absent, including for an illness, notify the professor in advance. Make-up labs may be arranged during other scheduled lab periods, on a space-available basis, during the same week only, by consulting with the professor of that particular laboratory section. If you miss a lab, or are unable to make it up during one of the other lab periods, it will count as a ZERO. However, the lowest laboratory score for the semester will be dropped. Students missing three labs will have their grade reduced by one full letter grade. Students missing four labs will have their grade reduced by two full letter grades. Students missing five or more labs will fail the course. (Note: The poster project counts as two labs, since two weeks of lab time are devoted to this activity.)

Laboratory reports will be ordinarily be due at the end of your assigned lab period the same week the laboratory is performed, unless announced otherwise by the professor. Prelab assignments must be completed by the beginning of the laboratory period in which the experiment will be performed. They may not be turned in late. Students will either work individually or in pairs. There will be no groups of three or more, unless assigned by the professor. A laboratory course should involve as much "hands-on" work as possible for each student.

It is crucial that you arrive to laboratory on time, as discussions will start immediately. Safety glasses and goggles will be provided for you to wear whenever chemicals are being used in the laboratory.

CONDUCT AND ATTENDANCE

In order for this class to be successful, we must all work together to make the classroom environment one that’s amenable to concentration and learning. The classes will start and end promptly at the times listed, so please make sure to find your seat a few minutes early, and do not start packing up your materials before the class is finished. If you arrive late, please use the back door and find a seat near the back of the class, being as minimally disruptive as possible. While I strive to maintain a fun and relaxed classroom environment, disrespectful behavior like interrupting the professor or other students, socializing during the class period, use of cell phones or other disruptive devices, or anything else which impedes on any other student’s ability to focus and learn, will not be tolerated. Please remember to turn off your cell phones before lecture starts – we can make it a habit as I need to remember to turn mine off as well!

Disruptive students may be removed from class with or without warning, and may not return until meeting with Karen Kraft, Dean of Educational Services, and meeting the guidelines set forth in the Student Code of Conduct.

While I do not take attendance, class attendance is expected by college policy. Students are responsible for all information and assignments given in class. The easiest way to fall behind and ultimately fail a class is to be absent multiple times. Material moves relatively quickly in this course, so even one absence can put you behind. Please contact the professor in advance in person or by email if you know you will be absent.

ASSIGNMENTS AND QUIZZES

Reading assignments are given later in this syllabus. You must have each of the reading assignments completed before the class period where that material is covered.

Approximately 4 quizzes will be administered as either in-class, take-home, or online quizzes in this course. The in-class quizzes may be unannounced, and may be open-notes, but will not be open-book. Take-home quizzes will be announced in class but must be downloaded from the course website. Online quizzes will be available through
Webassign (http://www.webassign.com). All quizzes will be worth approximately 10 points each. Make-up quizzes for excused absences may be available. See the professor.

**Textbook practice problems** will also be assigned. You should plan to work on these assignments while the related topics are covered in class. *You will be expected to have all of the assigned problems for a particular chapter completed by the class session that follows the session that the chapter is completed in lecture.* In general, these assignments will *not be collected.* You have college-level expectations in this course, so therefore I will not “hold your hand” and collect and grade daily work each period. Students should take the initiative to keep up with their work in order to prepare themselves for quizzes and exams.

**WebAssign problems** will be assigned for every chapter. These will generally be a series of short multiple-choice problem sets which can be answered on a website as instructed in class. These assignments will be scored electronically and are worth 5 points each. More information on these assignments will be given to you in the first two weeks of class. A WebAssign card is required to access these problems—these are available at the cashier in the ARCC bookstore.

**Classroom participation** is important to be successively engaged in the material. Approximately 10 points will be awarded over the course of the semester for in-class participation. Part of this grade will be assessed through your participation on the WebAssign message boards, an online collaboration environment where you can converse with your classmates and the instructor by posting messages. I think you’ll find this to be a very useful way to get clarifications or alternative explanations on difficult concepts presented in this class.

**EXAMS**

Only those topics covered in lecture, laboratory, in the reading assignments, or the problem assignments will appear on the exams. Exams must be taken at the scheduled time. *Make-up exams may only be given in the case of documented emergencies, and must be completed before the exams are returned to the class (1-2 class periods following the exam).* The professor has the right to refuse a make-up exam. Exams may be arranged to be taken early, see the professor as soon as possible if you may need this option.

*The lowest one-hour exam score will be dropped.* If you miss an exam, that exam will count as a zero and will be the dropped exam. You should try your very best for each exam, since you never know when unplanned events may prevent you from taking a future exam. There will be four one-hour exams plus the final. Make-ups may be allowed for the final exam if the professor has been consulted in advance.

Alternative testing situations can be arranged for those students with a documented learning disability. Please notify the professor well in advance of the exam if you elect for this service. *The alternative exam time may not be later than the assigned exam time.*

**POSTER SESSIONS**

Poster sessions will be held during your laboratory period the week of November 14-18. Information on the projects should be distributed in early October. Ask the professor for more information if you would like an early start.
**EXTRA CREDIT**

There may be one or two opportunities for a small amount (10 points) of extra credit in this semester. Only those opportunities announced to the entire class will be available for extra credit, and they must be completed by the announced due dates.

**STUDYING**

It is very important that you discipline yourself to become an organized, conscientious student who studies regularly. Set aside some time each day and devote it to studying chemistry. Last-minute cramming for cumulative exams usually results in poorer understanding of concepts and lower exam scores. Try to focus on underlying concepts, problem solving skills, and common themes more than simply memorizing facts. You should view difficulty as a challenge to overcome and mediocrity as unacceptable.

**ACADEMIC DISHONESTY**

Cheating or plagiarism of any kind will not be tolerated. Students will be given one warning upon the first instance of any cheating or plagiarism. Any incidents after the warning will result in the exam, quiz, or assignment in question to be given a grade of zero, which cannot be made up. Care will be taken to discuss proper formats for citing sources in written projects as needed throughout the semester. Many lab reports and group projects involve sharing of data and collaboration between several students; these instances do not constitute plagiarism as long as all contributors are listed on the assignment.

**KEEPING TRACK OF YOUR PROGRESS IN THIS COURSE**

You may use the table to the left to keep track of your scores. To determine where you stand in the course, divide the total of your points earned by the total number of points possible. Then multiply by 100. This will give you a percentage which you can use to determine your letter grade.

**GRADERS**

1. Laboratory, including Poster Session about 165 points
2. Quizzes/Homework/Participation about 80 points
3. Three highest one-hour exam scores 300 points
4. Final Exam 200 points

**Total about 735 points**

The final grade will typically be based on a total point system with the following letter grades:

- A 90.0 % and above
- B 80.0 - 89.9 %
- C 70.0 - 79.9 %
- D 60.0 - 69.9 %
- F below 60.0 %
CHEMISTRY 1020 ASSIGNMENTS

The problem assignments listed below should be considered the minimum number of problems that should be completed in your studies. Additional practice should make you more proficient with the course material. As this is a new textbook, this table will be completed and posted to the website over the course of the semester.

<table>
<thead>
<tr>
<th>Chap</th>
<th>Title</th>
<th>Reading Assignments</th>
<th>Suggested Problem Assignments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>What Is Chemistry?</td>
<td>All sections</td>
<td>17, 18, 22, 23, 25, 26, 28, 30, 31, 33, 35, 36, 38, 40, 42, 44, 46, 48, 50, 53, 55, 57, 58, 59</td>
</tr>
<tr>
<td>2</td>
<td>The Numerical Side of Chemistry</td>
<td>All sections</td>
<td>55, 57, 59, 61, 63, 64, 67, 69, 71, 75, 77, 79, 80, 82, 84, 85, 87, 88, 91, 93, 96, 98, 100, 102, 104, 106, 109, 110, 111, 112, 114, 116</td>
</tr>
<tr>
<td>3</td>
<td>The Evolution of Atomic Theory</td>
<td>All sections</td>
<td>25, 27, 30, 32, 34, 36, 38, 40, 42, 44, 46, 48, 51, 52, 53, 55, 57, 58, 60, 62, 64, 65, 67, 68, 70, 72, 74, 76, 78, 80, 82, 85</td>
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<tr>
<td></td>
<td><strong>Exam 1</strong></td>
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<tr>
<td>4</td>
<td>The Modern Model of the Atom</td>
<td>All sections</td>
<td>TBA</td>
</tr>
<tr>
<td>5</td>
<td>Chemical Bonding and Nomenclature</td>
<td>All sections</td>
<td>TBA</td>
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<tr>
<td></td>
<td><strong>Exam 2</strong></td>
<td></td>
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<tr>
<td>7</td>
<td>Chemical Reactions</td>
<td>7.1-7.5</td>
<td>TBA</td>
</tr>
<tr>
<td>8</td>
<td>Stoichiometry and the Mole</td>
<td>All sections</td>
<td>TBA</td>
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<tr>
<td></td>
<td><strong>Exam 3</strong></td>
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<tr>
<td>6</td>
<td>The Shape of Molecules</td>
<td>6.3-6.4</td>
<td>TBA</td>
</tr>
<tr>
<td>10</td>
<td>Intermolecular Forces and the Phases of Matter</td>
<td>All sections</td>
<td>TBA</td>
</tr>
<tr>
<td>12</td>
<td>Solutions</td>
<td>All sections</td>
<td>TBA</td>
</tr>
<tr>
<td>15</td>
<td>Electrolytes, Acids, and Bases</td>
<td>15.1-15.6, 15.8</td>
<td>TBA</td>
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<tr>
<td></td>
<td><strong>Exam 4</strong></td>
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<tr>
<td>17</td>
<td>The Chemistry of Carbon</td>
<td>TBA</td>
<td>TBA</td>
</tr>
</tbody>
</table>
### Chemistry 1020 Tentative Lecture, Exam, and Lab Schedule

Changes and updates to this schedule will be announced in class and posted at [http://webs.anoka.mseych.edu/aspaas](http://webs.anoka.mseych.edu/aspaas)

<table>
<thead>
<tr>
<th>Lab</th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intro &amp; Safety</td>
<td>Aug 22</td>
<td>23</td>
<td>Ch 1</td>
<td>25</td>
<td>Ch 1</td>
</tr>
<tr>
<td>Expt 1: Does It Make Cents?</td>
<td>29</td>
<td>30</td>
<td>31</td>
<td>Sept 1</td>
<td>2</td>
</tr>
<tr>
<td>Expt 2: How Do You Measure Up?</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>Expt 3: Sand/Salt</td>
<td>12</td>
<td>13</td>
<td>Exam 1</td>
<td>14</td>
<td>Ch 1-3</td>
</tr>
<tr>
<td>Expt 5: Thin-Layer Chromatography</td>
<td>26</td>
<td>27</td>
<td>28</td>
<td>29</td>
<td>30</td>
</tr>
<tr>
<td>Expt 6: Molecular Models</td>
<td>Oct 3</td>
<td>4</td>
<td>5</td>
<td>Exam 2</td>
<td></td>
</tr>
<tr>
<td>Expt 7: Can You Slow It Down?</td>
<td>10</td>
<td>11</td>
<td>12</td>
<td>13</td>
<td>14</td>
</tr>
<tr>
<td>Q&amp;A (No Lab Th/F)</td>
<td>17</td>
<td>18</td>
<td>19</td>
<td>20</td>
<td>21</td>
</tr>
<tr>
<td>Expt 8: What’s In A Cent?</td>
<td>24</td>
<td>25</td>
<td>26</td>
<td>27</td>
<td>28</td>
</tr>
<tr>
<td>Expt 9: It’s a Gas!</td>
<td>31</td>
<td>Nov 1</td>
<td>Exam 3</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Poster Prep (No lab)</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td>10</td>
<td>11</td>
</tr>
<tr>
<td>Poster Sessions</td>
<td>14</td>
<td>15</td>
<td>16</td>
<td>17</td>
<td>18</td>
</tr>
<tr>
<td>Q&amp;A (No Lab Th/F)</td>
<td>21</td>
<td>22</td>
<td>23</td>
<td>No Class</td>
<td></td>
</tr>
<tr>
<td>Expt 14: It’s Snow Big Deal</td>
<td>28</td>
<td>29</td>
<td>Last Day</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>Expt 10: How Do You Spell Relief?</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>No Lab</td>
<td>12</td>
<td>13</td>
<td>14</td>
<td>Final Exam</td>
<td></td>
</tr>
</tbody>
</table>

### Notes:
- *Note: In the event the professor misses a class, the entire lecture schedule may or may not be adjusted.*
Name____________________________________________________ Phone_______________________

Email Address_________________________________________ (Important information will be sent to this email address, so please make every effort to check it daily! Let me know if your email changes, as I will only reply to the address provided here to messages regarding any academically sensitive information.)

High School Attended________________________________________ H.S. Graduation Date___________

College Year (circle one): PSEO Freshman Sophomore Other Student I.D. Number ________________

College Major (if known)________________________________________________________________________

Law requires that grades posted online must not reference your student ID number in whole or part. Please provide a 4-8 digit number which the professor will use to identify you in online grade postings. Please do NOT use your ID number, birthdate, Social Security number, phone number or any other number which can be easily traced back to you. The number cannot start with 0.

Unique number: _____________________ □ Do NOT post my grades online (check box)

Please list all math, physical science, and chemistry courses completed (high school and college):

<table>
<thead>
<tr>
<th>Course Name or Number</th>
<th>Year</th>
<th>Location</th>
</tr>
</thead>
</table>

Are you taking this course as a prerequisite for another course? If so, which one(s)?

What do you hope to attain from this course?

Please write down any questions or concerns you have regarding this course. Also, write down any information that you think may be helpful for the professor to know about you (visual or hearing impairment, planned absence, etc.)

What is something interesting about yourself that you’d like to share? (This helps me learn names)

I have received and read the course syllabus. I have read and understood the sections on the Laboratory, Conduct and Attendance, Assignments, Exams, and Grades and understand the information in these sections. Sign below.

Signature___________________________________________ Date_______________ Course_______________

(The data collected on this form will be used to provide the instructor information about each individual and the class as a whole. The instructor does not require that you provide any of this information. Information collected by the instructor will remain strictly confidential.)