

## ANOKA-RAMSEY COMMUNITY COLLEGE COURSE SYLLABUS

- Course:** Chemistry 1061 — Principles of Chemistry I, 4 credits, Fall 2009
- Prerequisites:** MATH 0210 with a grade of C or better, appropriate score on math placement test, or equivalent. Grade of C or better in CHEM 1020, high school chemistry or equivalent. MATH 1200 recommended
- Lecture Instructor:** **Professor Lance S. Lund**, Office S206
- Telephone:** 763.433.1273
- E-mail (preferred):** [lance.lund@anokaramsey.edu](mailto:lance.lund@anokaramsey.edu)  
Note: Email must be sent from ARCC-assigned MetNet email accounts
- Home Page:** <http://webs.anokaramsey.edu/lund>
- Office Hours:**
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|-----------|--|
| <b>M</b>  | 12:00-12:50 PM (online – from S206)                      |
| <b>T</b>  | 11:00-11:50 AM (S206)                                    |
| <b>W</b>  | 10:00-10:50 AM (S206); 9:00-9:50 PM (online – from home) |
| <b>Th</b> | 2:00-2:50 PM (S206)                                      |
- Access online office hours at <https://breeze5.metnet.edu/chemlancer>
- Lab Instructors:**
- Professor Lance S. Lund**  
**Professor Christopher Lutz**, Office S210, 763.433.1494,  
[christopher.lutz@anokaramsey.edu](mailto:christopher.lutz@anokaramsey.edu)  
**Professor Vicki MacMurdo**, Office S202, 763.433.1432,  
[vicki.macmurdo@anokaramsey.edu](mailto:vicki.macmurdo@anokaramsey.edu)
- Chem Lab Manager:** David Stephan, S221, 763.433.1488, [david.stephan@anokaramsey.edu](mailto:david.stephan@anokaramsey.edu)  
**Science Secretary:** Lois Bjerke, S201, 763.433.1554, [lois.bjerke@anokaramsey.edu](mailto:lois.bjerke@anokaramsey.edu)

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### MATERIALS REQUIRED

- Textbook:** Chemistry: A Molecular Approach, 1<sup>st</sup> edition, Nivaldo J. Tro
- Mastering Chemistry Access:** Bundled with textbook or purchased separately in bookstore or at <http://www.masteringchemistry.com>. Note: Mastering Chemistry access is good for two years and may be used for other chemistry courses (same individual only).

Note: If you prefer, the text above may be purchased as an eBook (internet only), including Mastering Chemistry Access, for \$121.36 from <http://www.masteringchemistry.com/site/register/new-students.html>.

- Lab Activities:** Available at <http://webs.anokaramsey.edu/lund> (download and read ***before*** coming to lab each week)

- Bound Lab Notebook**  
**Scientific Calculator**

## ADDITIONAL RESOURCES

**Study Guide and Solutions Manual** (optional)

**On-Campus Tutoring:** Link to schedule posted at <http://webs.anokaramsey.edu/lund> and at the Academic Support Center

**Safety Glasses or Goggles** (provided for you in lab, but you may provide your own, as long as they are imprinted with the same safety code as those provided in the laboratory)

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## COURSE OUTCOMES

Upon completion of the course, the student should be able to:

1. understand and explain general chemical principles using proper chemical vocabulary and nomenclature.
  2. solve a wide variety of chemistry problems.
  3. perform standard laboratory procedures and experiments.
  4. associate lecture topics with laboratory procedures and practical applications.
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## 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 Lab Project counts as four labs.)

Laboratory reports will be due at the beginning of your assigned lab period the following week. A portion of the total points will be deducted for each day a report is turned in late. Laboratory reports that are more than one week late will receive a ZERO. Prelaboratory assignments (if any) must be completed by the beginning of the laboratory period in which the experiment will be performed. They may not be turned in late. Lab quizzes may be administered. 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.

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## CONDUCT AND ATTENDANCE

I believe in conducting my course with mutual respect amongst all of us. In particular with large classes, I request that you arrive and find a seat before the scheduled start time and do not pack up any of your materials until class time is over. I strive to start and end each class on time. If you arrive late, please enter the rear door and find a seat near the back, if possible. Please refrain from socializing, making comments, or noises when other people are speaking, including the professor. Turn off the sound to all cell phones, pagers, headsets, or other electronics. **Cell phones and pagers must be turned completely off on exam days and must be removed from sight.** Disruptive students may be removed from class and may not return until

meeting with Cindy Nutter, Dean of Student Life, 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. Large numbers of absences usually results in poor or failing grades. Please contact the professor in advance if you know you will be absent.

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## ASSIGNMENTS AND QUIZZES

**Reading assignments** are found elsewhere in this syllabus. It would be very helpful if the reading assignments are completed prior to the class period in which that material is covered. The reading assignments are accompanied by **suggested problem assignments**. 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 problems for a particular chapter completed by the class session that follows the session that the chapter is completed in lecture.* Students should take the initiative to keep up with their work in order to prepare themselves for quizzes and exams.

There will be **at least one in-class quiz** and **up to four in-class quizzes** during the term in class. The guaranteed quiz will be on selected elements and atomic symbols from the Periodic Table. In-class quizzes will be worth 10 points each, and may be announced or unannounced. Make-up quizzes will be at the discretion of the professor and are not guaranteed.

**Mastering Chemistry** (<http://www.masteringchemistry.com>) problems will be assigned for every chapter. The assignments will be scored electronically and will be worth 5 points each. Mastering Chemistry problems correspond primarily to even-numbered problems taken directly from your text. The Mastering Chemistry homework quizzes have been set up to deduct 1% for each hour your assignment is late, for up to 100 hours (a little over 4 days). Your lowest Mastering Chemistry homework quiz score of the semester will be dropped. **Due dates have been set at regular intervals throughout the course** in proportion to the **Due dates have been set at regular intervals throughout the course** in proportion to the amount of time necessary to complete each chapter. Assignments are due at 11:59 pm of the due date – see the course calendar for details. An access code has been bundled at a discounted price with your textbook, but may also be purchased separately at [www.masteringchemistry.com](http://www.masteringchemistry.com). Once signed in to Mastering Chemistry, **enroll yourself in the course LUND2009H**.

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## DISCUSSION BOARDS AND EMAIL

**Online Participation** may be assessed through your informal participation on the D2L discussion boards, an online collaboration environment where you may post messages visible to your professor and classmates. The discussion boards will be separated into forums by chapter and by exam. Up to 10 points **may be** awarded over the course of the semester for this participation. If points will be assigned to this category, more information will be presented in D2L. You may be reminded periodically to contribute.

### **When should I send the professor an email and when should I post to the discussion boards?**

The discussion boards are preferred for most forms of communication and inquiry in this course. You may not realize it, but if you have a question about something in the course, several others likely have the same question but just haven't asked. Most content questions

fall into this category. As mentioned earlier in this syllabus, it is requested that you bring issues to the professor's attention in a manner that avoids inflaming the issue any further.

Please reserve email for issues that require private communication between the professor and student. Examples of this might be grades, death in the family, a problem you have with a classmate or the professor, or issues that may be inflammatory if posted to the discussion boards. In many cases, your peers can reply to you faster on the discussion boards faster than the professor will be able to reply by email. **Emails sent to the professor must be from your ARCC-Assigned MetNet account to confirm your identity.**

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## 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. *There will be **NO** make-ups for the midterm exams*, before or after the scheduled exam date and time, with the exception of school-sponsored activities/events (must give at least two weeks advance notice) or conflicts with sincerely held religious beliefs/events (must inform professor during the first week of class). Furthermore, these exceptions will only be granted with verifiable documentation. Please do not ask for any other exceptions. If you are ill, have a planned vacation, get a flat tire on your way to school, or are otherwise unprepared or absent for an exam, that exam will count as a zero. 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 midterm exams plus the final. Make-ups may be allowed for the Final Exam if the professor has been consulted in advance.

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## ACCOMODATIONS FOR STUDENTS WITH DOCUMENTED DISABILITIES

Students requiring accommodation for a disability must make an appointment during the first week of class to meet with the professor to ensure the accommodations may be made. Disabilities must be documented through the Director of Access Services, Scott Bay. He may be reached at [scott.bay@anokaramsey.edu](mailto:scott.bay@anokaramsey.edu) or 763.433.1334.

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## ALTERNATIVE TESTING AND MAKE-UP EXAMS

Alternative testing and make-up exams are handled through the Campus Testing Center at 763.433.1314. Alternative testing is available only to those students that have met the conditions in the previous section on Accommodations. Make-ups for midterm exams are available only to students with conflicts of school-sponsored activities/events (must give at least two weeks advance notice) or conflicts with sincerely held religious beliefs/events (must inform professor during the first week of class). Make-ups for midterm exams **will not** be given for any other reason, either before or after the scheduled exam date and time.

Exams must be scheduled at the same time, OR BEFORE, the time the exam is scheduled to be administered to the rest of the class. On occasions where this is impossible, please consult with the professor BEFORE scheduling an exam time with the Testing Center. The professor and student will try to work out some other arrangement.

When scheduling your exam with the Testing Center, you will be provided with an appointment slip to pass along to your professor, indicating the date and time of the exam. In order to take the exam in the Testing Center, the professor must receive the appointment slip at least two school days (48 hours) BEFORE you intend to take the exam. If the professor does not receive the slip at least two school days in advance, you will not be able to take the alternate or make-up exam. However, you are welcome to take the exam with the rest of the class.

You are subject to the same make-up policy as the rest of the class, meaning that you must take the exam at time you have scheduled. The exam will have a specified start time and end time. As with the rest of the class, if you miss the appointed time for an exam, you will receive a ZERO on the exam. NO EXCEPTIONS. I do my best to check in with my alternate testing and make-up exam students while they are taking an exam to see if they have any questions, but will make no guarantees.

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### SUCCEEDING IN THIS COURSE

One of the questions I am often asked by current and prospective students: **What does it take to succeed in this course?** Another question I often hear: **How much time should I set aside for this course?** I usually find it is difficult to come up with that magical answer that students are looking for, since everyone is different. There are different work ethics, natural abilities, work schedules, maturity levels, personal issues, and family lives.

However, general guidelines suggest that for each hour spent in lecture, you should spend two hours outside of class. More difficult classes such as those in math and science or those requiring more independent work may require three hours outside of class for each hour spent in lecture. Also, for each three-hour lab such as the one attached to this course, there should be one additional hour spent outside of lab. Since this course meets 3 hours a week for lecture and 3 hours a week for lab, the guidelines suggest you should be spending 7-10 hours per week outside of this class on studying, homework, labs, etc.

In general, the more time you put into the course, the better you will do. The less time you put in, the poorer you will do. As I often tell my own teenage boys,



“Homework is when you only do what is required of you. Studying goes above and beyond homework. It is what you do to master the material. **You will likely find yourself disappointed in the end if you have only done the homework.**”

When I first started teaching at the college level, I was mentored by a well-seasoned colleague of mine that conveyed this message to students in his classes:



“It is very important that you *discipline* yourself to become an organized, conscientious student who studies regularly (daily). Last-minute cramming for cumulative exams usually results in poorer understanding of concepts and lower exam scores. **You should view difficulty as a challenge to overcome and mediocrity as unacceptable.**”

## KEEPING TRACK OF YOUR PROGRESS IN THIS COURSE

You may use the table below 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.

Item	Points Earned	Points Possible
Lab 1		
Lab 2		
Lab 3		
Lab 4		
Lab 5		
Lab 6		
Lab 7		
Lab 8		
Lab 9		
Lab 10		
Lab Notebook/ Housekeeping		
Lab Project		
Element Quiz		
HW E		
HW 1		
HW 2		
HW 3		
HW 4		
HW 5		
HW 6		
HW 7		
HW 8		
HW 9		
HW 10		
Other		
Exam 1		
Exam 2		
Exam 3		
Exam 4		
Final Exam		
<b>Total</b>		

### GRADES

1. Laboratory	about 145 points
2. Quizzes/Online Discussion/Other	<u>about</u> 60 points
3. Three <u>highest</u> midterm exam scores	300 points
4. Final Exam	200 points
<b>Total</b>	<b><u>about</u> 705 points</b>

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

<b>A</b>	90.0 % and above
<b>B</b>	80.0 - 89.9 %
<b>C</b>	70.0 - 79.9 %
<b>D</b>	60.0 - 69.9 %
<b>F</b>	below 60.0 %

### EXTRA CREDIT

In general, I am not a believer in extra credit. However, you may be allowed to earn a *maximum of 10 points extra credit* in this course. Only those opportunities announced in class will be considered for extra credit and they must be completed by the announced due date(s). **Extra credit is not intended for students that have not completed other work in the course.** Award of extra credit points is at the discretion of the professor.

## CHEMISTRY 1061 ASSIGNMENTS

Note: The suggested 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. Additionally, you will be assigned graded homework problems taken from the text at <http://www.masteringchemistry.com>.

Exam	Chap	Title	Reading Assignments	Suggested Problem Assignments (End-of-Chapter)
1	1	<i>Matter, Measurement, and Problem Solving</i>	All sections	#9, 11, 12, 17, 24, 27, 28, 37, 41, 43, 47, 51, 55, 63, 65, 67, 71, 75, 81, 85, 91, 99, 107, 109, 113, 115, 117, 121
	2	<i>Atoms and Elements</i>	2.1-2.8	#7, 12, 21, 23, 25, 33, 45, 53, 55, 63, 69, 73, 77, 91, 99, 109
	3	<i>Molecules, Compounds, and Chemical Equations</i>	3.1-3.6	#2, 9, 11, 23, 29, 33, 35, 37, 39, 41, 43, 45, 47, 49, 51, 53, 55
2	2	<i>Atoms and Elements</i>	2.9	#79, 81, 87, 89, 107
	3	<i>Molecules, Compounds, and Chemical Equations</i>	3.7-3.11	#14, 17, 57, 59, 61, 67, 71, 77, 81, 87, 93, 97, 99, 111, 117, 119, 129
	4	<i>Chemical Quantities and Aqueous Reactions</i>	All sections	#1, 5, 10, 12, 13, 22, 23, 25, 35, 43, 45, 47, 49, 53, 55, 61, 63, 67, 71, 77, 79, 81, 83, 87, 95, 107, 111, 113
3	5	<i>Gases</i>	All sections	#1, 4, 6, 14, 15, 17, 19, 31, 33, 35, 37, 43, 45, 47, 55, 57, 63, 67, 73, 75, 79, 85, 93, 99, 109, 121
	6	<i>Thermochemistry</i>	All sections	#5, 8, 12, 15, 19, 21, 23, 27, 33, 45, 47, 55, 57, 63, 65, 69, 71, 73, 77, 81, 83, 91, 93, 99, 107
4	7	<i>The Quantum-Mechanical Model of the Atom</i>	All sections	#3, 7, 14, 20, 27, 30, 31, 32, 41, 43, 51, 53, 59, 61, 67, 79, 83, 91
	8	<i>Periodic Properties of the Elements</i>	All sections, skim over section 8.9	#7, 11, 16, 18, 21, 23, 26, 27, 32, 35, 37, 39, 41, 43, 45, 47, 51, 57, 59, 63, 65, 69, 73, 77, 91, 99, 113, 121
	9	<i>Chemical Bonding I: Lewis Theory</i>	All sections	#1, 3, 5, 15, 17, 19, 21, 29, 30, 39, 41, 45, 53, 55, 59, 61, 69, 71, 75, 85, 91, 107
Final	10	<i>Chemical Bonding II: Molecular Shapes &amp; Valence Bond Theory</i>	10.1 - 10.7	#1, 3, 7, 11, 13, 16, 29, 33, 37, 41, 45, 49bcd, 51, 55, 59, 81, 85
	<b>The Final Exam is cumulative, so a review of all course material is appropriate.</b>			

## CHEM 1061 LECTURE, EXAM, and LAB SCHEDULE

Revisions to this schedule will be announced in lecture and posted at <http://webs.anokaramsey.edu/lund>.

Lab	Monday	Tuesday	Wednesday	Thursday	Friday
Lab Safety, Spreadsheet I	Aug 24	Aug 25 Intro, Ch 1	Aug 26	Aug 27 Ch 1	Aug 28
Microscale Density	Aug 31	Sep 1 Ch 1, 2	Sep 2	Sep 3 <b>Quiz 1, MC 1 Due</b> Ch 2	Sep 4
Q&A	Sep 7 No School Labor Day	Sep 8 <b>Element Quiz</b> Ch 2, 3	Sep 9	Sep 10 <b>MC 2 Due</b> Ch 3	Sep 11
Spreadsheet II	Sep 14	Sep 15 <b>Exam 1</b> <b>MC 3a Due</b>	Sep 16	Sep 17 Ch 2, 3	Sep 18
Intro to LabPro Interface	Sep 21	Sep 22 Ch 3	Sep 23	Sep 24 Ch 3, 4	Sep 25
Limiting Reactant	Sep 28	Sep 29 <b>MC 3b Due</b> Ch 4	Sep 30	Oct 1 Ch 4	Oct 2
Reactions	Oct 5	Oct 6 Ch 4	Oct 7	Oct 8 <b>Exam 2</b> <b>MC 4 Due</b>	Oct 9
Titration	Oct 12	Oct 13 Ch 5	Oct 14	Oct 15 No School Faculty Meetings	Oct 16 No School Faculty Meetings
Gas Laws	Oct 19	Oct 20 Ch 5	Oct 21	Oct 22 Ch 5	Oct 23
Project Intro	Oct 26	Oct 27 <b>MC 5 Due</b> Ch 6	Oct 28	Oct 29 Ch 6	Oct 30
Thermochemistry	Nov 2	Nov 3 Ch 6	Nov 4	Nov 5 <b>Exam 3</b> <b>MC 6 Due</b>	Nov 6
Q&A (M,T) No Lab (W)	Nov 9	Nov 10 Ch 7	Nov 11 No School Veterans Day	Nov 12 Ch 7, 8	Nov 13
Project	Nov 16	Nov 17 <b>MC 7 Due</b> Ch 8	Nov 18	Nov 19 Ch 8, 9	Nov 20
Project	Nov 23	Nov 24 <b>MC 8 Due</b> Ch 9	Nov 25	Nov 26 No School Thanksgiving	Nov 27 No School Thanksgiving
Project Presentations	Nov 30	Dec 1 Ch 9	Dec 2 Last Day to Withdraw	Dec 3 <b>Exam 4</b> <b>MC 9 Due</b>	Dec 4
Beer's Law	Dec 7	Dec 8 Ch 10	Dec 9	Dec 10 Ch 10	Dec 11
<b>Finals Week</b>	Dec 14 <b>Final Exam</b> <b>4:10-6:10 pm</b>	Dec 15 <b>← MC 10 Due</b> <b>on Monday</b>	Dec 16	Dec 17	Dec 18

*You may pretty much count on the scheduled exam dates, unless the professor has an extended absence.*

*In the event the professor misses a class, the entire lecture schedule may or may not be adjusted.*