



Chemistry 1062: Principles of Chemistry II (4 credits)
Fall 2016 Course Syllabus

Professor Lance S. Lund
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Prerequisites

- MATH 0250 with a grade of C or better
- CHEM 1061 with a grade of C or better
- MATH 1200 or above highly recommended

Office Hours (held simultaneously in **S206** and **online** unless otherwise specified)

- **Monday** 7:00-7:50 pm (online only)
- **Tuesday** 9:30-10:20 am; 12:30-1:20 pm
- **Wednesday** 11:00-11:50 am
- **Thursday** 10:00-10:50 am
- Online office hours accessed at <http://connect.shot.smsu.edu/lund>

Chem Lab Manager

- **Nicol Salgado**, CR S221, 763.433.1155, Nicol.Salgado@anokaramsey.edu

Secretary

- **Becci Anderson**, H246, 763.433.1246, Rebecca.Anderson@AnokaRamsey.edu

Thursday Lab Professor

- **Chris Lutz**, Office S210, 763.433.1494, Christopher.Lutz@AnokaRamsey.edu
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MATERIALS REQUIRED

- **Textbook**
 - Principles of Chemistry: A Molecular Approach, 3rd ed, Nivaldo Tro, **ISBN 0-321-97116-7**
 - The textbook bundle sold in the ARCC Bookstore includes MasteringChemistry (required)
- **Textbook Alternatives** (purchase in place of required text; available elsewhere on the web):
 - Principles of Chemistry: A Molecular Approach, 3rd ed, Nivaldo Tro, **eText**
 - Purchase at <http://www.masteringchemistry.com> for \$113.95 (24 month access)
 - The eText version includes MasteringChemistry (includes 24 month access)
 - Principles of Chemistry: A Molecular Approach, 2nd ed, Nivaldo Tro, **ISBN 0-321-75090-X**
 - This edition requires a separate purchase of MasteringChemistry, available at <http://www.masteringchemistry.com> for \$65.95 (24 month access) – Purchase access for the 3rd edition of the text, **not** the 2nd edition.
 - Ask the professor for an alternative list of end-of-chapter suggested problems.
- **Mastering Chemistry Access:** There are three options (choose only one):
 1. Your login/access credentials from CHEM 1061 will work if you purchased your textbook within the last 24 months. See Professor Lund if you purchased MasteringChemistry access for CHEM 1061, but it has been more than 24 months since you took the course.
 2. An **access code** is bundled with the purchase of a **new** textbook purchased at the ARCC Bookstore. This access **includes an eText** and is valid for up to 24 months. Read descriptions carefully if you purchase a “new” textbook elsewhere online.
 3. If you have a **used** textbook, an **access code** may be purchased for **\$65.95** at <http://www.masteringchemistry.com>. This access is valid for 24 months, but does **not** include an eText.

Your access code may be registered at <http://www.masteringchemistry.com>. **Enroll in the course LUNDF2016C.** If you have questions on registration and access, please use MasteringChemistry Support or the discussion boards within this D2L course.
- **Laboratory Materials**
 - Lab activities available at <http://webs.anokaramsey.edu/chemistry/chem1062>
 - Bound Lab Notebook (such as a composition book with graphing grid)
- **Scientific Calculator**
 - Smartphone, tablet, smartwatch, computer, or web apps may **not** be used on exams, nor may other aids be used.
- **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
 - **Online Tutoring:** Click the ‘Smarthinking Tutoring’ widget on the right-hand panel within this D2L course. Online tutoring service supplied by SmarThinking.com
 - **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)

COURSE OUTCOMES

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

- understand and explain general chemical principles using proper chemical vocabulary and nomenclature.
 - solve a wide variety of chemistry problems.
 - perform standard laboratory procedures and experiments.
 - 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 a period in which the same lab activity is being conducted 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 5 labs.)

Prelab quizzes must be completed with a minimum level of proficiency before participating in a given lab activity. Once in lab, 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. Laboratory reports will be due at the beginning of your assigned lab period the following week. 10% will be deducted for each day a report is turned in late. Laboratory reports more than one week late will receive a ZERO.

CONDUCT AND ATTENDANCE

I believe in conducting my course with mutual respect amongst all of us. With large classes in particular, 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, smartwatches, headsets, or other electronics. **Cell phones and other electronic devices 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 the Dean of Student Life and meeting the guidelines set forth in the Student Code of Conduct.

Class attendance is expected and 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.

ASSIGNMENTS AND QUIZZES

Reading assignments are found elsewhere in this syllabus. It is 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 quiz** during the semester. This quiz will be on the syllabus and introductory materials. Quizzes are worth 10 points each and may be administered in class or on D2L Brightspace. Make-ups quizzes are at the discretion of the professor and may be subject to a 50% penalty.

MasteringChemistry (<http://www.masteringchemistry.com>) homework quizzes will be assigned for each chapter. The quizzes are graded electronically and are worth 5 points each. MasteringChemistry homework quizzes include several even-numbered problems taken directly from your text. There is a 1% deduction for each hour a question on a homework quiz is submitted late (the entire quiz is not penalized!), for up to 100 hours (96 hours = 4 days). Your lowest MasteringChemistry homework quiz score of the semester will be dropped.

Due dates are set at regular intervals throughout the course in proportion to the amount of time necessary to complete each chapter. MasteringChemistry homework quizzes are due at 11:59 pm of the due date – see the course calendar on p. 9 for details. Remember to **enroll yourself in the course LUNDF2016C**. **See the p. 2 of the course syllabus for access code details** and for more information on accessing MasteringChemistry for the first time.



DISCUSSION BOARDS AND EMAIL

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, there are likely several others that have the same question but just haven't asked. Most content questions fall into this category. It is requested that discussion board postings are done in a manner that avoids inflaming issues you may have.

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 than the professor will be able to reply by email. **Emails sent to the professor must be from your ARCC-assigned email account to confirm your identity. Private data will not be shared with unverified email accounts.**

EXAMS

There will be four one-hour exams plus the final. Only those topics covered in the lecture, laboratory, reading assignments, end-of-chapter suggested problems, and quizzes will appear on the exams. Exams must be taken at the scheduled time. *There will be **NO** make-ups for the one-hour exams, **before or after** the scheduled exam date and time*, except for students with conflicts due to school-sponsored activities/events (must give at least two weeks advance notice) or sincerely held religious beliefs/events (must inform the professor during the first week of class). These students may request **early access** to one-hour exams with verifiable documentation. Do not ask for other exceptions, as you will be disappointed with the answer.

Exams missed for any reason – including illness, planned vacation, a flat tire on your way to school, lack of preparation, forgetfulness, etc. – **will count as a ZERO**. However, your lowest one-hour exam score of the semester will be dropped. Since unplanned events may prevent you from taking a future exam, you should try your very best on every exam.

The final exam is a standardized general chemistry exam produced by the American Chemical Society. Only **nonprogrammable** scientific calculators are allowed on this exam. Make-ups for the **Final Exam** may be allowed with advance consultation.

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 Office of Disability Services at 763.433.1350.

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 one-hour exams are only available to students with conflicts involving 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 one-hour 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.

The Testing Center will provide you 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 48 hours **before** you intend to take the exam. If the professor does not receive the slip at least 48 hours 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 the 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.

EXTRA CREDIT

You may be allowed to earn a **maximum of 10 points extra credit**. Only those opportunities described below will be considered for extra credit.

0.5 extra credit points. Awarded for each **practice** problem set completed in MasteringChemistry with a score of 80% or above. Practice problem sets must be completed **by 11:58 pm** of the indicated due date to receive full credit (see below). There is a 1% deduction for each hour a question in the practice problems is submitted late (the entire problem set is not penalized!), for up to 100 hours (96 hours = 4 days).

Chapter	Practice Problems 1	Practice Problems 2
20	Mon, Aug 29	Wed, Aug 31
11	Wed, Sep 7	Mon, Sep 12
12	Wed, Sep 14	Mon, Sep 26
13	Wed, Sep 28	Mon, Oct 3
14	Wed, Oct 5	Mon, Oct 10
15	Wed, Oct 19	Wed, Oct 26
16	Wed, Nov 2	Mon, Nov 7
17	Mon, Nov 14	Wed, Nov 16
18	Wed, Nov 23	Wed, Nov 30
19	Mon, Dec 5	Wed, Dec 7

0.5 extra credit points. Awarded to the **first** person that identifies each of these types of errors in the D2L Brightspace portion of this course, in the textbook, or on MasteringChemistry:

- spelling and typos
- grammatical – affecting interpretation, like missing word(s)
- wrong answers on assignments, quizzes, exams, etc.
- discussion boards, emails, other informal writing excluded

Awarding of extra credit points is at the discretion of the professor. Extra credit is intended for students that have completed all of the other work in the course. **Extra credit will not be added into the gradebook until the end of the semester.**

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 difficult to come up with the 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 1-2 additional hours 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 7-11 hours per week outside of this class studying, doing homework, preparing for lab, 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 told my own sons,



“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.**”

CHEMISTRY 1062 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	20	Organic Chemistry	20.1-20.12	#7, 13, 23, 25, 35, 37, 41, 43, 45, 47, 51, 53, 55, 57, 59, 63, 67, 73, 77, 81, 83, 85, 95, 99, 122
	11	Liquids, Solids, and Intermolecular Forces	11.1-11.11	#1, 7, 9, 19, 23, 25, 35, 37, 39, 41, 43, 45, 47, 49, 51, 53, 55, 57, 61, 63, 75, 83, 85, 103
	12	Solutions	12.1-12.5 [†]	#1, 3, 5, 13, 15, 21, 23 [†] , 25 [†] , 27 [†] , 29 [†] , 31 [†] , 33 [†] , 37 [†] , 69, 75 [†]
2	12	Solutions	12.6-12.7	#49, 51, 53, 59, 63ac, 79, 81, 105
	13	Chemical Kinetics	All	#1, 3, 5, 7, 9, 11, 13, 15, 17, 21, 23, 25, 27, 29, 31, 35, 37, 41, 47, 51, 55, 59, 61, 67, 71, 79, 83, 95
	14	Chemical Equilibrium	All	#1, 3, 5, 7, 9, 11, 13, 15, 17, 23, 25, 27, 29, 33, 35, 37, 41, 43, 45, 47, 49, 53, 57, 59, 63, 77, 81
3	15	Acids and Bases	All	#1, 3, 5, 7, 9, 11, 13, 17, 19, 21, 25, 29, 31, 33, 37, 39, 43, 47, 49, 51, 57, 59, 63, 65, 69, 71, 75, 77, 79, 81, 87, 89, 91, 95, 99, 119
	16	Aqueous Ionic Equilibrium	All	#3, 5, 7, 9, 11, 15, 17, 21, 25, 27, 29, 33, 35, 39, 41, 45, 51, 55, 57, 59, 61, 65, 67, 69, 71, 73, 77, 81, 85, 93, 113
4	17	Free Energy and Thermodynamics	All	#1, 3, 5, 7, 11, 13, 15, 17, 21, 25, 31, 33, 35, 39, 43, 45, 49, 57, 59, 71, 73
	18	Electrochemistry	Review 4.9 All sections in Ch. 18	Ch. 4, #63, 67; Ch. 18, #3, 5, 7, 9, 11, 13, 17, 19, 21, 25, 27, 29, 31, 37, 41, 49, 51, 53, 57, 61, 63, 67, 71, 91
	19	Radioactivity and Nuclear Chemistry	All	#1, 3, 5, 9, 11, 13, 15, 19, 23, 27, 29, 31, 35, 37, 41, 43, 47, 49, 51, 67
Final	The Final Exam is cumulative, so a review of all course material is appropriate.			

*The End-of-Chapter Suggested Problems will NOT be submitted for grading to your professor. However, they will give you a broader view of what to expect on your midterm and final exams as will the reading assignments and other course content provided on D2L Brightspace. The Mastering Chemistry homework quizzes give a narrower view of what to expect on your midterm and final exams – they are intended to be quizzes.

[†]The pace will determine whether the problems and reading for section 12.5 will be covered on Exam 1 or 2.

CHEM 1062 LECTURE, EXAM, and LAB SCHEDULE

Changes and updates to this schedule will be announced in class and posted on D2L Brightspace.

Lab	Monday	Tuesday	Wednesday	Thursday	Friday
Lab Report Tools, Computer Refresher	Aug 22	Aug 23	Aug 24	Aug 25	Aug 26
Functional Groups	Aug 29	Aug 30 Ch 20, 11	Aug 31 MC 20 Due	Sep 1 Email Due Ch 11	Sep 2 Syllabus Quiz Due
Solubility	Sep 5 No School Labor Day	Sep 6 Ch 11	Sep 7	Sep 8 Ch 11, 12	Sep 9
Intro to & Prep for Class Visits	Sep 12 MC 11 Due	Sep 13 Ch 12	Sep 14	Sep 15 Exam 1 (Ch 20, 11-12a)	Sep 16
Class Visits	Sep 19	Sep 20 Ch 12	Sep 21	Sep 22 Ch 12, 13	Sep 23
Kinetics	Sep 26 MC 12 Due	Sep 27 Ch 13	Sep 28	Sep 29 Ch 13	Sep 30
Equilibrium	Oct 3 MC 13 Due	Oct 4 Ch 14	Oct 5	Oct 6 Ch 14	Oct 7
pH	Oct 10 MC 14 Due	Oct 11 Exam 2 (Ch 12b-14)	Oct 12	Oct 13 Ch 15	Oct 14
Q&A	Oct 17	Oct 18 Ch 15	Oct 19	Oct 20 No School Fall Break	Oct 21 No School Fall Break
Lab Project	Oct 24	Oct 25 Ch 15	Oct 26 MC 15 Due	Oct 27 Ch 16	Oct 28
Titration	Oct 31	Nov 1 Ch 16	Nov 2	Nov 3 Ch 16	Nov 4
Lab Project	Nov 7 MC 16 Due	Nov 8 Exam 3 (Ch 15-16)	Nov 9	Nov 10 Ch 17	Nov 11 No School Veteran's Day
Lab Project	Nov 14	Nov 15 Ch 17	Nov 16 MC 17 Due	Nov 17 Ch 18	Nov 18
Lab Project or Q&A	Nov 21	Nov 22 Ch 18	Nov 23 Last Day to Withdraw	Nov 24 No School Thanksgiving	Nov 25 No School Thanksgiving
Redox	Nov 28	Nov 29 Ch 18	Nov 30 MC 18 Due	Dec 1 Ch 19	Dec 2
Lab Project Presentations	Dec 5	Dec 6 Ch 19	Dec 7 MC 19 Due	Dec 8 Exam 4 (Ch 17-19)	Dec 9
Finals Week	Dec 12	Dec 13 Final Exam 11:50am-1:50pm	Dec 14	Dec 15	Dec 16

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

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

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		
Class Visit		
Lab Project		
Lab Notebook/ Housekeeping		
Syllabus Quiz		
MC 20		
MC 11		
MC 12		
MC 13		
MC 14		
MC 15		
MC 16A		
MC 16B		
MC 17		
MC 18		
MC 19		
Other		
Exam 1		
Exam 2		
Exam 3		
Exam 4		
Final Exam		
Total		

GRADES

1.	Laboratory	about 150 points
2.	Quizzes/Homework	about 60 points
3.	Three <u>highest</u> midterm exam scores	300 points
4.	Final Exam	200 points
Total		about 720 points

The final grade will 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 %

If you registered for the course Pass/Fail:

- P** 70.0 % and above
- F** below 70.0 %

Chemistry 1062
Syllabus Quiz
Fall 2016

This assignment is worth 10 points.

1. If you have not yet done so, activate your **ARCC-assigned email address** at <https://www2.anokaramsey.edu/it/studentmail/>. Using your **ARCC-assigned** email account (**not** Hotmail, Yahoo, Gmail, or others), prepare an email message to your professor that includes the following:
 - In the subject line, write **Chem 1062 Syllabus Quiz** using identical spelling and spacing. (The professor uses an email program that sorts email by subject line. If you do not enter it correctly, he may not receive the message. Get in the habit of using the subject lines specified in any given assignment.)
 - In the body of the email,
 - Introduce yourself by the name you would like to be addressed by the professor.
 - Write a short paragraph sharing your educational and/or career goals. If desired (not required), share additional information – hobbies or interests outside of school or work, something others find interesting about you, hardships you've overcome. There is no need to be very personal.
 - Send the email to the professor **no later than Thursday, September 1, 2016 by 11:59 pm**. His email address is lance.lund@anokaramsey.edu.
 - If you followed the instructions **exactly**, you should receive a reply within 24 hours. If you do not receive a reply, try resending the message. The most common error is that the specified subject line of **Chem 1062 Syllabus Quiz** was not used.
2. Upon receiving the receipt of your email, log on to **D2L Brightspace** and take the syllabus/first day quiz for your Chem 1062 **lecture** course. The **D2L Brightspace Quiz** must be completed **no later than Friday, September 2, 2016 by 11:59 pm**.
 - Don't wait until the last minute to activate your **ARCC-assigned email** and D2L Brightspace accounts, as you may encounter problems that prevent the timely completion of this assignment. Please go to the Open Computer Lab on the lower level of the Technology Building **as soon as possible** if you encounter any problems or have any questions.

What is D2L Brightspace?

D2L Brightspace is the online Learning Management System that is used by all colleges and universities within MnSCU (Minnesota State Colleges and Universities). It is the place you will find the discussion boards, course news, laboratory quizzes for this course. D2L Brightspace may be accessed from the college website (<http://www.anokaramsey.edu>) or directly at <https://anokaramsey.ims.mnscu.edu>.

Login to D2L Brightspace

To login to D2L Brightspace, your Star ID and password are needed. Directions for activating your Star ID may be found at <http://starid.mnscu.edu/go/activate/>.