

ANOKA-RAMSEY COMMUNITY COLLEGE COURSE SYLLABUS

- Course:** Chemistry 1020 — Interpretive Chemistry, 4 credits, Spring 2014
- Prerequisite:** MATH 0200 with a grade of C or better, appropriate score on math placement test, or equivalent
- Lecture Instructor:** Professor Lance S. Lund, Office S206 (Coon Rapids Campus)
- Contact Info:** 763.433.1273 or lance.lund@anokaramsey.edu
Note: Email must be sent from your **@my.anokaramsey.edu** email account
- Home Page:** <http://webs.anokaramsey.edu/lund>
- Office Hours:**
- | | |
|-----------|---|
| M | 8:00-8:50 PM (online*) |
| Tu | 9:30-10:20 AM (S206); 11:00-11:50 AM (S206 and online*) |
| W | 12:00-12:50 PM (S206 and online*) |
| Th | 1:00-1:50 PM (S206) |
- *Click 'Online Office Hours' from on the right-hand panel of this D2L course or go directly to <https://umconnect.umn.edu/lund>.
- Chem Lab Managers:** **David Stephan**, CR S221, 763.433.1488, david.stephan@anokaramsey.edu
Daniel Harmon, CC E225, 763.433.1813, daniel.harmon@anokaramsey.edu
- Science Secretary:** **Becci Anderson**, H246, 763.433.1246, rebecca.anderson@anokaramsey.edu
- Lab Professor:** **Christopher Lutz**, S210, 763.433.1494, christopher.lutz@anokaramsey.edu
Kelly Befus, S212, 763.433.1863, kelly.befus@anokaramsey.edu

MATERIALS REQUIRED

Textbook: Chem 1020, 1st ed, Pearson Custom Library, ISBN 1-2693-5163-X

Textbook Alternatives: Chem 1020, 1st ed, Pearson Custom Library, ISBN 1-2690-6032-5 or Introductory Chemistry*, 4th ed, Nivaldo Tro, ISBN 0-321-68793-0 (***Not** the "Essentials")

Lab Manual: Interpretive Chemistry Laboratory Manual, Spring 2014 edition, ARCC Chem Dept

Scientific Calculator

MasteringChemistry Access: There are two options (choose only one):

1. An access code is bundled with the purchase of a **new** textbook. This access comes with an eText and is valid for up to 24 months. Your access code may be registered at www.masteringchemistry.com.
2. If you have a **used** textbook, an access code may be purchased for \$36.20 at http://www.pearsoncustom.com/mn/anoka_chem. This URL is for ARCC students only and is a 45% discount off the regular price of \$66.00. Access purchased from the ARCC-custom link is valid for up to 6 months and comes with **no** eText.

Once your access code was registered through one of the two options above, you must **enroll in the course LUND2014SB**. All future access will be made by logging in with your username and password at www.masteringchemistry.com. If you have questions, please use MasteringChemistry Support or the discussion boards within this D2L course.

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:

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.
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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.**

Prelab quizzes and assignments 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 should be completed by the end of your assigned lab period and a D2L quiz must be taken within 48 hours of completing each lab activity.

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, 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 the 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.

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 two quizzes** during the semester. One quiz will be on the syllabus and introductory materials and the other will be on selected elements and atomic symbols from the Periodic Table. Quizzes will be worth 10 points each and may be administered in class or on D2L. Make-ups quizzes will be at the discretion of the professor.

MasteringChemistry (<http://www.masteringchemistry.com>) homework quizzes will be assigned for every chapter. These quizzes are scored electronically and will be worth 5 points each. MasteringChemistry homework quizzes correspond primarily to even-numbered problems taken directly from your text. The 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 MasteringChemistry homework quiz score of the term will be dropped.

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. Once signed in to MasteringChemistry, **enroll yourself in the course LUND2014SB**.

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, several of your peers may have the same question but just haven't asked. Most content questions fall into this category. It is requested that your discussion board postings are done in a manner that avoids inflaming any issues you (or your peers) may be having.

Please reserve email for issues that require private communication between the professor and student. Examples of this might be grades, a 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 my.anokaramsey.edu account to confirm your identity.**

EXAMS

Only those topics covered in the lecture, laboratory, reading assignments, or 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.

As an incentive to do well on the final exam, your lowest midterm exam score will also be replaced by the percentage earned on the final exam (unless the final exam grade is lower). 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 three midterm exams plus the final. Make-ups may be allowed for the Final Exam if the professor has been consulted in advance.

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 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 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.

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 two-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 2 hours a week for lab, the **guidelines suggest you should be spending 7-10 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 teenage 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 1020 ASSIGNMENTS

Note: The suggested problem assignments listed below are 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
1	1	<i>The Chemical World</i>	All sections	None
	2	<i>Measurement and Problem Solving</i>	All sections	#7, 11, 27, 31, 39, 41, 43, 49, 55, 57, 61, 69, 73, 75, 79, 95, 99, 101, 109, 111, 113
	3	<i>Matter and Energy</i>	Sections 3.1-3.10	#3, 7, 11, 13, 15, 29, 35, 39, 45, 73, 111, 113
	4	<i>Atoms and Elements</i>	All sections	#3, 11, 13, 17, 19, 25, 27, 33, 49, 53, 55, 57, 61, 69, 73, 83, 87, 89, 99, 105, 107, 117
	5	<i>Molecules and Compounds</i>	Sections 5.1-5.10	#1, 9, 11, 15, 21, 23, 29, 31, 43, 47, 51, 53, 59, 61, 63, 65abcde, 69abcdf, 71, 73, 77, 81, 95abcd (Note: additional problems provided on D2L)
2	6	<i>Chemical Composition</i>	Section 5.11 Sections 6.1-6.7	Ch. 5, #77, 91 Ch. 6, #21, 31, 37, 45, 49, 63, 73, 83, 103, 107
	7	<i>Chemical Reactions</i>	All sections	#5, 7, 11, 15, 25, 29, 33, 35, 41, 47, 51, 53, 55, 57, 59, 63, 65, 67, 85, 87
	8	<i>Quantities in Chemical Reactions</i>	Sections 8.1-8.6	#2, 3, 7, 9, 17, 21, 27, 35, 45, 49, 53, 57, 61, 63, 79, 85
	11	<i>Gases</i>	Sections 11.1-11.6	#1, 2, 5, 9, 11, 25, 33, 35, 39, 41, 51, 53
	9	<i>Electrons in Atoms and the Periodic Table</i>	9.1-9.5, 9.6 (ground state and excited state only), 9.7 (valence electrons only), 10.2	#3, 5, 9, 13, 14, 15, 16, 61
3	10	<i>Chemical Bonding</i>	Sections 10.1-10.8	#5, 7, 9, 17, 25, 27, 29, 33, 37, 39, 43, 47, 49ac, 51, 53, 77, 83, 89acd, 93, 97, 99 (Note: Expt. 5, conducted in lab, will also help.)
	18 (or 15)	<i>Organic Chemistry</i>	Sections 15.1-15.8, 15.11-15.15 (Custom Edition) Sections 18.1-18.8, 18.11-18.15 (Hardcover Edition)	#1, 7, 9, 13, 21, 23, 25, 27, 33, 35, 37, 39, 43, 45, 47, 49, 53, 57a, 59ab, 83, 85bcd, 87a, 91, 93, 95, 103, 107 (Note: additional problems provided on D2L)
	12	<i>Liquids, Solids, and Intermolecular Forces</i>	Sections 12.1-12.2, 12.4-12.8	#1, 5, 9, 13, 16, 23, 25, 31, 39, 45, 59, 61, 69, 71, 75, 99
	13	<i>Solutions</i>	All sections (no calculations for Section 13.9)	#3, 5, 6, 7, 8, 11, 14, 17, 20, 23, 31, 33, 35, 43, 47, 61, 63, 71, 73, 81, 83, 85, 87, 131 (Note: additional problems provided on D2L)
Final	14	<i>Acids and Bases</i>	All sections (may be altered due to time constraints)	#1, 2, 5, 7, 8, 17, 20, 21, 24, 33, 57, 61acd, 71, 73, 77, 81, 109
	The Final Exam is cumulative, so a review of all course material is appropriate.			

*The Suggested Problem Assignments 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. 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.

CHEM 1020 LAB SCHEDULE

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

Monday	Tuesday	Wednesday	Thursday	Friday
Jan 13	Jan 14	Jan 15	Jan 16	Jan 17
Intro & Safety		Intro & Safety	Intro & Safety	
Jan 20	Jan 21	Jan 22	Jan 23	Jan 24
No School MLK Day		Expt 1	Expt 1	
Jan 27	Jan 28	Jan 29	Jan 30	Jan 31
Expt 1		Expt 2	Expt 2	
Feb 3	Feb 4	Feb 5	Feb 6	Feb 7
Expt 2		Expt 9	Expt 9	
Feb 10	Feb 11	Feb 12	Feb 13	Feb 14
Expt 9		Expt 6	Expt 6	
Feb 17	Feb 18	Feb 19	Feb 20	Feb 21
No School President's Day		Q&A	Q&A	No School Duty Day
Feb 24	Feb 25	Feb 26	Feb 27	Feb 28
Expt 14		Expt 14	Expt 14	
Mar 3	Mar 4	Mar 5	Mar 6	Mar 7
Expt 8		Expt 8	Expt 8	
Mar 10	Mar 11	Mar 12	Mar 13	Mar 14
No School Spring Break	No School Spring Break	No School Spring Break	No School Spring Break	No School Spring Break
Mar 17	Mar 18	Mar 19	Mar 20	Mar 21
Expt 4		Expt 4	Expt 4	
Mar 24	Mar 25	Mar 26	Mar 27	Mar 28
Expt 7		Expt 7	Expt 7	
Mar 31	Apr 1	Apr 2	Apr 3	Apr 4
Expt 5		Expt 5	Expt 5	
Apr 7	Apr 8	Apr 9	Apr 10	Apr 11
Expt 6		Q&A	Q&A	
Apr 14	Apr 15	Apr 16	Apr 17	Apr 18
Expt 13		Expt 13	Expt 13	
Apr 21	Apr 22	Apr 23	Apr 24	Apr 25
Expt 15		Expt 15	Expt 15	
Apr 28	Apr 29	Apr 30	May 1	May 2
Expt 16		Expt 16	Expt 16	
May 5	May 6	May 7	May 8	May 9
Expt 10		Expt 10	Expt 10	
May 12	May 13	May 14	May 15	May 16
Finals Week No Lab	Finals Week No Lab	Finals Week No Lab	Finals Week No Lab	Finals Week No Lab

CHEM 1020 LECTURE and EXAM SCHEDULE

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

Monday	Tuesday	Wednesday	Thursday	Friday
Jan 13	Jan 14	Jan 15	Jan 16	Jan 17
	Intro, Ch 2		Ch 2	
Jan 20 No School MLK Day	Jan 21	Jan 22	Jan 23	Jan 24
	Ch 2		Email Due Ch 2, 3	Syllabus Quiz Due
Jan 27	Jan 28	Jan 29	Jan 30	Jan 31
	MC 2 Due Ch 3		MC 3 Due Ch 4	
Feb 3	Feb 4	Feb 5	Feb 6	Feb 7
	Ch 4		MC 4 Due Ch 5	
Feb 10	Feb 11	Feb 12	Feb 13	Feb 14
	Ch 5		Exam 1 MC 5 Due	
Feb 17 No School Prez Day	Feb 18	Feb 19	Feb 20	Feb 21 No School Faculty Duty Day
	Ch 6		Ch 6, 7	
Feb 24	Feb 25	Feb 26	Feb 27	Feb 28
	MC 6 Due Ch 7		Ch 7, 8	
Mar 3	Mar 4	Mar 5	Mar 6	Mar 7
	MC 7 Due Ch 8		Ch 11	
Mar 10 No School Spring Break	Mar 11 No School Spring Break	Mar 12 No School Spring Break	Mar 13 No School Spring Break	Mar 14 No School Spring Break
Mar 17	Mar 18	Mar 19	Mar 20	Mar 21
	MC 8 Due Ch 11, 9		Ch 9	
Mar 24	Mar 25	Mar 26	Mar 27	Mar 28
	Exam 2 MC 11/9 Due		Ch 10	
Mar 31	Apr 1	Apr 2	Apr 3	Apr 4
	Ch 10		MC 10 Due Ch 15/18	
Apr 7	Apr 8	Apr 9	Apr 10	Apr 11
	Ch 15/18			
Apr 14	Apr 15	Apr 16	Apr 17	Apr 18
	Ch 15/18		MC 15/18 Due Ch 12	
Apr 21	Apr 22	Apr 23	Apr 24	Apr 25
	Withdraw Date Ch 12		MC 12 Due Ch 13	
Apr 28	Apr 29	Apr 30	May 1	May 2
	Ch 13		Exam 3 MC 13 Due	
May 5	May 6	May 7	May 8	May 9
	Ch 14		Ch 14	
May 12	May 13	May 14	May 15	May 16
MC 14 Due	Final Exam (8:00 am class)		Final Exam (2:00 pm class)	

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

KEEPING TRACK OF YOUR PROGRESS IN THIS COURSE

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 Safety Quiz		
Expt 1		
Expt 2		
Expt 9		
Expt 6		
Expt 14		
Expt 8		
Expt 4		
Expt 7		
Expt 5		
Expt 13		
Expt 15		
Expt 16		
Expt 10		
Lab Assessment		
Syllabus Quiz		
Element Quiz		
HW 2		
HW 3		
HW 4		
HW 5		
HW 6		
HW 7		
HW 8		
HW 11/9		
HW 10		
HW 18		
HW 12		
HW 13		
HW 14		
Exam 1		
Exam 2		
Exam 3		
Final Exam		
Totals		

GRADES

1. Laboratory	140 points
2. Quizzes/Homework	80 points
3. Three midterm exam scores	300 points
4. Final Exam	200 points
Total	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 %

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 1020
Syllabus Quiz
Spring 2014**

This assignment is worth 10 points.

1. Using your ARCC-assigned **@my.anokaramsey.edu** 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 1020 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, January 23, 2014 by 11:59 pm**. His email address is lance.lund@anokaramsey.edu.
 - If you followed the instructions **exactly**, you should receive a reply within about 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 1020 Syllabus Quiz** was not used.
2. Upon receiving the receipt of your email, log on to **D2L** and take the syllabus/first day quiz for your Chem 1020 **lecture** course. The **D2L Quiz** must be completed **no later than Friday, January 24, 2014 by 11:59 pm**.
 - Don't wait until the last minute to activate your **@my.anokaramsey.edu** and D2L 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?

Desire2L (called D2L) 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 may be accessed from the college website (<http://www.anokaramsey.edu>) or directly at <https://anokaramsey.ims.mnscu.edu>.

Login to Desire2Learn

To login to Desire 2 Learn, your Star ID and password are needed. Directions for activating your Star ID may be found at <http://starid.mnscu.edu/go/activate/>.