

C1152-02: Principles of Chemistry 2 (Hybrid)

Spring Semester, 2018

Kirk Boraas instructor

v.12.8.17



Contact Information:

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WARNING

*This hybrid course requires **ON CAMPUS Exams and Laboratories.**
If you are taking this course because you believe it to be entirely on-line, you should withdraw.*

Principles of Chemistry 2 might be the most difficult courses you've taken so far in your college career. New terminology, abstract concepts and problem solving all contribute to a demanding course that requires a lot of time spent studying and working problems. I've selected a very good textbook, created narrated lectures and utilized on-line resources to give you the best chance at mastering the material.

However, you must be able to devote yourself to this course and you must be reasonable about your responsibilities. If you work and have a family, this one course could be too much to manage. Use the table below to determine what course load is realistic for you. Keep in mind that courses with required laboratories will require additional work outside of class.

Working (Full Time)	Working (part time)	Family	Recommended Number of Course(s)
Yes	No	Yes	1 (<i>very challenging</i>)
Yes	No	No	1
No	Yes	Yes	1
No	Yes	No	2
No	No	Yes	2
No	No	No	3 (<i>full time student</i>)

Week 1 Quick Start:

Here's what you must do the first week of class. Details are available in this syllabus below.

- Print out this syllabus and mark your calendars with important exam dates and times.
- Access your school email account and obtain instructions for **Mastering Chemistry** and **E-text** access through the D2L website. Log into D2L and follow the instructions to connect with both **MC** and the **E-text**. (Not available until the first official day of class)
- Read Chapter 12 and work the associated Mastering Chemistry homework problems.
- Visit the course website located at http://www.mctcteach.org/chemistry/C1152/C1152_Hybrid/ and view Chapter 12 lectures.
- Begin taking the required D2L quizzes (Note: Two attempts with highest score recorded). D2L isn't available until classes officially begin.
- Labs will begin meeting the 1st week of class. (<http://www.mctcteach.org/chemistry/C1152/index.htm>) Yes, there will be a quiz on the first day.

Course Description

The Chem 1152 course is the second part of a two semester sequence designed to give students a broad introduction to the field of chemistry. It involves both lecture and required laboratory sessions. Students are expected to be knowledgeable in the topics covered by C1151, C1020 or their equivalents (see additional prerequisites below). *The pace WILL be fast and challenging.*

Prerequisites

You need to have successfully completed Chem 1151, Chem 1020, Math 0080, Read 0200 and English 0900 or the equivalent of these courses **with good grades**. More math is better. It is your responsibility to have met the course prerequisites at the beginning of the semester.

Textbook and Materials:

- The E-text for this class is available through D2L.
If you would also like to purchase a used hardcopy textbook, any edition (1st, 2nd or 3rd) will work well.
Chemistry: Principles of Chemistry: A Molecular Approach by Nivaldo J. Tro, Prentice Hall.
- Copies of the text book are available to borrow in the MCTC library
- Mastering Chemistry is available through D2L. You will use this online homework utility throughout the semester.
- Scientific or graphing calculator (Cell phones and laptop computers will not be permitted during exams).
- Bound laboratory notebook. Spiral bound notebooks not accepted.

Important Websites:

- **Course Website (Daily announcements, lectures, videos and additional HW problems):** http://www.mctcteach.org/chemistry/C1152/C1152_Hybrid/
- **D2L (online quizzes, exams and discussion forum):** <http://minneapolis.learn.minnstate.edu>
- **Lab Manual (laboratory handouts and instructions):** <http://www.mctcteach.org/chemistry/C1152/>

Lecture:

- The online/hybrid (sec 02) and traditional lecture (section 01) courses utilize completely different instructional formats and testing schedules and are not compatible. It is not possible to transfer between these sections once the semester is underway.
- Daily announcements/discussion will appear on the course website.
You are responsible for checking the course website every day.
- View/study the narrated online Lectures that are available on the course website.
- D2L Discussion board.
 - Post all chapter specific questions on the D2L discussion board.
 - Use email **ONLY** for confidential communication.

Homework and quizzes:

- Mastering Chemistry Homework assignments are accessed via D2L. Assignments must be completed before they expire (No exceptions).
- Required quizzes are available on the D2L website. Two attempts are allowed with the highest score recorded in the gradebook. Late quizzes are not permitted.

Laboratory:

- You must be registered for one of the C1152 laboratory sessions.
- Lab meets the first week of class. Come prepared having studied the lab handout and assembled your lab notebook. There will be a quiz.
- Not performing more than 3 lab experiments will significantly affect your course grade. Refer to the laboratory section of this syllabus for details.
- Attending a different laboratory session requires 1 week prior approval of all instructors involved.
- The lowest laboratory report and quiz grades are dropped when calculating grades throughout the semester.

Student Responsibilities

- You are responsible for all the information, requirements and procedures described in this syllabus.
- Any topic assigned on the syllabus or appearing in the book may appear on an exam.
- Class attendance and punctuality are very important. Don't be late for lab.
- You are responsible for all announcements and materials presented in class via D2L, the course website, Mastering Chemistry and email.
- You are responsible for knowing and obeying the Student Code of Conduct as established by MCTC.
- Academic dishonesty (including but not limited to plagiarism and cheating) is absolutely prohibited on any assigned work, including: homework, exams, quizzes, and lab reports.
- First-time violations of the Student Code of Conduct will be reported on the Student Misconduct Form and, if the misconduct involves homework or an exam, a zero will be assigned for the work in question. Appropriate sanctions will be imposed for second-time violations, and a grade of "F" will be assigned for the entire course.
- *Cell phones*, music, pagers, etc. are to be **TURNED OFF** during lecture/lab times.
- By enrolling in this class you agree to work all quizzes and exams individually with no help from others.

Your Success

- Learning is your job and responsibility. Take it seriously.
- Don't fall behind.
- Read the text book.
- View the recorded lectures
- Do the Mastering Chemistry homework problems. Don't "Google" for answers. You won't learn anything.
- Work the extra homework problems posted on the course website.
- Print out and work the practice exams available on the course website.
- Take advantage of posted office hours.
- Make an appointment with the instructor early in the semester. Don't wait until it's too late.
- Make an appointment with a Learning Center tutor.

Special Needs

If you need an accommodation to make it possible for you to succeed in the lecture and/or laboratory section of this course (such as, but not limited to, wheelchair access or a sign language interpreter), please contact the Office for Students with Disabilities: (612-659-6730 or 612-659-6731 (TTY), T223).

If you qualify for special quiz and testing accommodations through the Accessibility Resource Center, you must make these arrangements at least two weeks in advance. You must take quizzes and exams the same day as the rest of the class. Failure to make advanced arrangements means you will take quizzes/exams at the times and locations listed on the course schedule and webpage with the rest of the class. It is recommended that you make arrangements as soon as possible to guarantee testing rooms are available.

Religious Accommodations

Minneapolis Community and Technical College is committed to respecting the religious beliefs and practices of all members of the community, and making accommodations for observances of special significance to adherents. Students' sincerely held religious beliefs shall be reasonably accommodated with respect to scheduling and other academic requirements for this course. *Students requesting academic accommodations due to religious beliefs must notify the instructor of such requests in writing or by email by the end of the second full week of classes.* If a student fails to notify the instructor accordingly, then there is no obligation on the part of the Chemistry Department or its staff to accommodate the student in any manner.

Grading:

Grade Cutoffs:

Online Exam #1	10%	A > 90%
On-Campus Exam #2 (Ch. 12 – 15)	25%	B > 80%
Online Exam #3	10%	C > 70%
On-Campus Exam #4 (Ch. 16 – 20)	25%	D > 60%
Homework and D2L quizzes	10%	F < 60%
Laboratory	20%	
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Total	100%	

- **Exam Times and Dates:** Exams 1 & 3 are available on two different consecutive days (check the course schedule for details). You are responsible for taking only one version of each exam. If both exam versions are attempted, a zero grade is awarded for the exam. The mid-semester and final exams are available only once on the days and times indicated on the course schedule. Exam questions are designed to test your knowledge and confidence and will not be reproductions of homework or quiz problems.
- **Final Exam:** The Final Exam is optional and you can take it to improve your grade. If taken, the final exam score can be substituted for either Exam #2 or #4 (whichever is lower). There is no penalty for taking the final exam.
- **Makeup Exams: There are no makeup exams.** All exams are to be taken at the scheduled dates and times (this includes the Final) Mark your calendars now. See calendar below for details.
- **Homework** (Mastering Chemistry) and regular D2L quizzes will contribute 10% to the total course grade.
- **Posted Grades:** Coded grades will be posted periodically on the course website as an Excel spreadsheet. The standard D2L grade book *will not be used.*
- **Last Date of Attendance.** Your attendance in this class is monitored. Failure to participate regularly or missing more than 3 laboratories will result in lower course grades and possibly you being dropped from the course.
- **Incompletes:** Incompletes are very rarely granted. A signed contract is required and coursework must be completed during the first week of the next semester. Failure to do so results in the "I" automatically turning into an "F".
- **Extra Credit:** There is no extra credit available for this course.

Laboratory



Lab Meeting Times(Room S-2300)

Wednesday	Section 30	Erbs	11:15 AM – 1:45 PM
Wednesday	Section 32	Erbs	2:30 PM – 5:00 PM
Wednesday	Section 40	Boraas	5:30 PM – 8:00 PM
Thursday	Section 31	Erbs	11:15 AM – 1:45 PM



Week 1: Laboratory meets the first week of class. To properly prepare for the first lab you should:

- Study the Week 1 lab materials (<http://www.mctcteach.org/chemistry/C1152/index.htm>)
- Prepare your BOUND lab notebook (Example at right) before coming to the first lab.
- Prepare yourself to take a quiz at the start of lab.

Required Materials:

- Handouts are available on the C1152 Chem. Student Resources web page (Link above)
- Download, print and study the laboratory handouts before coming to lab (There will be a quiz)
- You will need a scientific calculator *every* time you meet for lab.

Laboratory Attire

- **Goggles:**
 - Minnesota state law requires that you wear safety goggles while you or others are performing experiments in the laboratory and you must always wear your goggles unless the laboratory instructor tells you otherwise.
 - MCTC does not regularly supply goggles for student use. You must purchase goggles and bring them to lab.
 - If you fail to bring goggles with you to lab, you will have the option of borrowing a pair.
 - 2 points will be deducted from your lab quiz each time you borrow goggles.
 - Failure to wear goggles as instructed while in the lab will result in your dismissal from the laboratory and a grade of zero for that experiment.
- **Dress:** You will not be allowed to do an experiment if not dressed appropriately for the lab.
 - **Shoes:** Allowed: Closed toes and backs
Not allowed: Shoes with cut-outs or vents that expose skin.
Sandals with or without socks.
 - **Clothing:** Allowed: Long pants with no tears or holes and skirts that cover the leg.
Not allowed: Shorts, capri pants, nylon panty hose, tights, tank tops or loose fitting clothing.
 - **Hair:** Long hair should be tied back or confined before coming to lab to prevent it from catching fire, being dragged through chemicals or getting caught up in lab apparatus.

Lab Grade: (20% of your course grade)

- Lab reports (10 points each) are due at the *beginning* of the next laboratory session. They are otherwise considered LATE one day. 1 point per day is deducted for reports turned in late (Maximum 5-point deduction)
- Lab quizzes (10 pts each)
 - Quizzes are administered during the first 15 minutes of the laboratory class.
 - If you are more than 15 minutes late for lab, you will receive a zero for both the lab write-up and quiz.
 - There is no additional time for students arriving late.
 - Quizzes will be based upon foundational material, the day's laboratory procedures and safety protocol.
 - Quizzes will be corrected immediately.
 - **Individuals not passing with a score of 6/10 or better will be dismissed from the laboratory and will receive a zero for the experiment report. This WILL count as a missed experiment.**
- The lowest laboratory quiz and report will be dropped before final grades are calculated.
- Your lab notebook will be checked/graded each time lab meets. These scores will contribute 10 points to the lab report score at the end of the semester.
- The calorimeter is a required project and contributes 10 points to the lab report score at the end of the semester..

Missed Labs

- Attending lab is an important part of your success in this course. Missed lab experiments, either the result of you missing lab OR you not passing the laboratory quiz, will affect your course grade as follows
 - 4 missed experiments: 1 final grade point deduction (e.g. Course grade changes from B to C)
 - 5 missed experiments: 2 final grade points deduction (e.g. Course grade changes from B to D)
 - 6 missed experiments: 3 final grade points deduction (e.g. Course grade changes from B to F)
- Missed labs cannot be made up.
- For legitimate reasons, it may be possible to attend another lab session that same week **IF THERE IS ROOM** (Maximum occupancy: 18 students/lab).
- You can only attend a different lab session if *advance permission (1 week)* has been granted by the laboratory instructor.

Data

- ONLY pen is used to write in your laboratory notebook. No exceptions.
- Have the instructor sign and date your notebook before leaving the lab to receive credit for the experiment.

Lab Reports:

- Reports are due the next time lab meets.
- Late reports will be penalized at a rate of -1pt/day for being late (- 5 points max...data sheet worth 5 pts)
- Ask your lab instructor about the last possible date/time to turn in late lab reports.
- All lab reports must be completely word processed. Calculations can be hand written.

Cleanup:

- EVERYONE will be held responsible for cleaning up their area at the end of the lab session.
- Data won't be signed until all equipment has been neatly put away and the bench tops wiped down with a wet sponge.

Tentative C1152-02 Schedule (Subject to change):

	Laboratory	Textbook	Important Dates
Week 1 (M 1/8 – 1/12 F)	Introductions and Required Lab Safety	Chapter 12: Solutions	1/12 (F) Last day to drop/add
Week 2 (M 1/15 – 1/19 F)	L1: Solubility of a salt	Chapter 12: Solutions	1/15 (M) Martin Luther King Day. No Classes
Week 3 (M 1/22 – 1/26 F)	L2: Freezing Point Depression	Chapter 13: Chemical Kinetics	
Week 4 (M 1/29 – 2/2 F)	L3: Determination of Reaction Rates	Chapter 13: Chemical Kinetics	1/30 (T) Student Success Day (No Classes)
Week 5 (M 2/5 – 2/9 F)	NONE	Chapter 14: Equilibrium Concepts	2/5 (M) OR 2/6 (T) 7:00 – 9:00 PM Online Exam #1 Ch. 12 & 13
Week 6 (M 2/12 – 2/16 F)	L4: Equilibrium Const. Determination	Chapter 14: Equilibrium Concepts	
Week 7 (M 2/19 – 2/23 F)	L5: Le Chatelier's Principle	Chapter 15: Acid/Base Equilibrium	2/19 (M) President's Day (No Classes)
Week 8 (M 2/26 – 3/2 F)	L6: Acid Dissociation Constant	Chapter 15: Acid/Base Equilibrium	
Spring Break (M 3/5 – 3/9 F)			
Week 9 (M 3/12 – 3/16 F)	L7: Water Hardness	Chapter 16: Ionic Equilibrium	3/13 (T) 6:00 – 9:00 PM On-Campus Exam #2 Ch. 12-15
Week 10 (M 3/19 – 3/23)	L8: Buffer Titrations	Chapter 16: Ionic Equilibrium	
Week 11 (M 3/26 – 3/30 F)	NONE	Chapter 17: Thermodynamics	3/29 (Th) Faculty Dev. Day (No Classes)
Week 12 (M 4/2 – 4/6 F)	L9: Det. of H_f: Calorimeter Comp	Chapter 17: Thermodynamics	
Week 13 (M 4/9 – 4/13 F)	L10: Hypochlorite in Bleach	Chapter 18: Electrochemistry	4/9 or 4/10 7:00 – 9:00 PM Online Exam #3 Ch. 16 & 17 4/12 (Th) Emergency Drill 1:45 & 6:55
Week 14 (M 4/16 – 4/20 F)	L11: REDOX Reactions	Chapter 18 Electrochemistry	
Week 15 (M 4/23 – 2/27 F)	L12: Faraday's constant	Chapter 20 Organic Chemistry	
Week 16 4/30 (M)– 5/4 (F)	L13: Synthesis of Soap	Chapter 20 Organic Chemistry	5/3 (Th) 6:00 – 9:00 PM On-Campus Exam #4 Ch. 16 - 20 5/4 (F) Faculty Dev. Day (No Classes)
Week 17 Final Exams 5/7 (M)– 5/11 (F)	NONE		5/9 (W) 6:00 – 9:00 PM Optional On-Campus Final Exam Cumulative: Ch. 12 - 20