

C1151: Principles of Chemistry 1 (Hybrid)

Spring Semester, 2024

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Syllabus in Brief:

1. There are **no makeup exams or laboratories**.
2. Grade cutoffs: A: 90% B: 80% C: 70% D: 60% (No Rounding Up)
3. Course grade ...
 - a. **13.3%** D2L Quizzes
 - b. **13.3%** laboratory participation and quizzes
 - c. **13.3%** laboratory reports
 - d. **60 %** Exams 1, 2
 - e. Optional final exam replaces lowest exam 1 or exam 2 score if better.
4. If you are eligible for special testing accommodations, you must notify me and arrange at least **2 weeks in advance**.

Quick Start:

- Visit the course website: http://www.mctcteach.org/chemistry/C1151/C1151_Hybrid/
 - Check daily
 - Work the daily homework problems in a dedicated homework notebook
 - View video lectures
 - Read the online textbook (Links on website)
- Purchase a bound laboratory notebook (Pictured at right)
- Get Microsoft Excel and Word. You will need both to process lab data and reports.
 - Google docs and Chromebooks will NOT work in this course.
 - Refer to course website for links to free MS Office products that are available to MCTC students.
- Find a FREE app that allows you to photograph and email pdf files of your lab notebooks.
- **Attend lab (S-2300) the first week of class (January 8).**
Mondays ... Sec. 60: 11:00 – 1:30 PM Sec. 61 2:30– 5:00 PM Sec 62 6:00 – 8:30 PM
- Mark your calendars with important exam dates and times.
- **Visit D2L:** <http://minneapolis.learn.minnstate.edu>
 - Locate the D2L quiz links on the D2L homepage



Details:

Course Description

The Chem 1151 course is the first part of a two semester sequence designed to give students a broad introduction to the field of chemistry. It consists of on-line content delivery, exams and synchronous ZOOM laboratory meetings. Students are expected to be knowledgeable in the topics covered by an introduction to chemistry course and algebra fundamentals.

Prerequisites

You need to have **successfully completed Chem 1020, Math 0080, Read 0200 and English 0900** or the equivalent of these courses (...with a good grade). It is your responsibility to have met the course prerequisites before the C1151 course begins. Not having met the math or chemistry requirements will severely limit your success in this course.

Required Course Materials:

1. Bound Laboratory Notebook.
2. Scientific calculator. (Graphing calculators are ok)
3. Microsoft Excel and Word
4. CamScanner or similar free app that converts photos to pdf files

Grading (**No Rounding**):

On-Campus Exam #1	30 %	Grade Cutoffs: <i>(No Rounding Up)</i> A > 90% B > 80% C > 70% D > 60%
On-Campus Exam #2	30 %	
D2L quizzes	13.3%	
Laboratory Notebooks and quizzes	13.3%	
Laboratory Reports	13.3%	

Total	100%	

Exams:

- There are 2 exams that contribute 60 % to your course grade.
On-Campus Exams 1 and 2 contribute 30 % each.
- **Makeup Exams: There are no makeup exams under any circumstances.**
- The **optional Final Exam** can be used to replace the lowest **Exam 1 OR Exam 2** score.

D2L Quizzes D2L quizzes contribute 13.3 % to the total course grade.

- Consult the course website or schedule below for quiz deadlines
- The best score of two attempts is entered into the gradebook
- Questions are multiple choice
- Questions appear in random order
- You cannot return to previously answered questions

Laboratory Weekly lab reports and notebook/participation grades contribute 26.6 % of the total course grade.
As labs are very important, there is a one course grade letter penalty for each lab session missed beyond the first three missed lab sessions.

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.*
You can identify your grades via the "elemental code" you are assigned.

Last Date of Attendance.

Your attendance in this class is monitored. Failure to participate regularly 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

Periodically, there *may* be extra credit opportunities on scheduled exams. Other than this *possibility*, there is no extra credit for this course.

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.
- You are responsible for all announcements and materials presented in class via D2L , the course website, 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.
- *By enrolling in this class you agree to work all quizzes and exams individually with no help from others.*

ACCESSIBILITY STATEMENT

Minneapolis College is committed to providing equal access to education for all students. Students who have a disability, or believe they may have a disability, are invited to contact the Accessibility Resource Center as soon as possible to determine eligibility and/or request accommodations. Accommodations are determined on a case-by-case basis. Please contact the ARC at 612-659-6730, accessibility@minneapolis.edu, or stop by Building T, room T.2400 to request reasonable accommodations.

The accommodations authorized on your forms should be discussed with your instructor. All discussions will remain confidential. Accommodations are not provided retroactively, so it is essential to discuss your needs at the beginning of the semester. Additionally, only accommodations approved by the Accessibility Resource Center will be provided.

This syllabus is available in alternate formats upon request.

ACCOMMODATIONS FOR VETERANS AND ACTIVE MILITARY MEMBERS:

Minneapolis College is dedicated to assisting veterans and eligible family members in achieving their educational goals. Military members who are currently serving should advise their instructor of all regularly scheduled military training and duties that conflict with scheduled course requirements. Instructors will work with the student to address issues that arise. For further information on this, refer to MinnState Procedure 5.12.1 Military Service and Disabled Veterans.

RELIGIOUS OBSERVATION ACCOMMODATIONS:

Minneapolis College is dedicated to our core values of diversity and inclusion, including non-discrimination on the basis of religion. You should provide your instructors with reasonable notice of the dates of religious holidays on which you will be absent. Absence from classes or examinations for religious reasons does not relieve you from responsibility for any part of the course work required during the period of absence, but it is the responsibility of your instructors to make reasonable accommodations so you do not need to choose between religious observance and academic work.

TITLE IX POLICY

Sexual violence is an intolerable intrusion into the most personal and private rights of an individual, and is prohibited at Minneapolis College. Minneapolis College is committed to eliminating sexual violence in all forms and will take appropriate remedial action against any individual found responsible for acts in violation of this policy. Acts of sexual violence may also constitute violations of criminal or civil law, or other Minnesota State colleges and universities system Board Policies that may require separate proceedings. To further its commitment against sexual violence, Minneapolis College provides reporting options, internal mechanisms for dispute resolution, and prevention training or other related services as appropriate. For more information, see College Policy 2.08. For information on filing a report of sexual violence, go to: File a Report on Sexual Violence.

CAMPUS RESOURCES

ACADEMIC SUCCESS CENTER

The Academic Success Center is located on the third floor of the T Building, room T.3200 (Right). This new center offers:

- Tutoring provided by professional and peer tutors
- A computer lab that offers workshops and tutoring on digital literacy
- Course placement services
- A digital speech lab for recording and practicing spoken presentations
- Group study rooms and computer set ups for designed for collaboration
- Regular mini-sessions on math, English, ESOL, and study skills.



All services are offered free to Minneapolis College students. The free tutoring is for all students; research shows that students who receive tutoring have better “staying power,” higher grades and deeper learning than students who don’t! For more information about academic support offered at the college, see the Current Students page on the Minneapolis College website. If you can’t find a service or resource you’re looking for on the College’s website, try an AskUs search.

RESOURCE AND REFERRAL CENTER

The Resource and Referral Center is located in the T Building, room T.2300 and is a place for current Minneapolis College students to access many non-academic support services or get referrals for additional assistance. They can help with free counseling services, referrals for emergency shelter, housing resources, food shelves, childcare and parenting support resources, healthcare, chemical and mental health programs and more! The Center also houses the Office of Student Rights and Responsibilities, which offers help to students who are considering filing a concern, complaint or grievance. The Center also offers a mediation program, R.O.O.T. Resolving Our Own Troubles.

The Resource and Referral Center is open Monday – Friday, from 8:00 am – 4:30 pm. They can be reached at 612-659-6709 or at resources@minneapolis.edu. For more information about student support services offered at the college, see the Current Students page on the Minneapolis College website.

Laboratory (The lowest laboratory report and pre-lab quiz is dropped)



Principles of Chemistry 1 laboratories meet on campus at the scheduled times below:

Monday Sec. 60 ... 11:00 – 1:30 PM
Monday Sec. 61 ... 2:30 – 5:00 PM
Monday Sec. 62 ... 6:00 – 8:30 PM

Sequence of weekly laboratory events:

1. You prepare for lab by downloading and studying the lab procedures found on the laboratory course website.
2. Before coming to lab, glue the lab procedure into your lab notebook.
3. Come to lab **ON TIME** with your ...
 - a. prepared laboratory notebook
 - b. pen
 - c. calculator
 - d. goggles
 - e. face mask
4. You will then take the pre-lab quiz given during the first 10 minutes of class and pass with a score of 6/10 or better.



If you score less than 6/10, you will be politely asked to leave the laboratory for the day.

You will receive a zero for that lab report

5. After a prelab discussion, you will work individually to complete the experiment, recording your observations and measurements in your lab notebook.
6. Before leaving at the end of the day, you will have your lab notebook initialed and photographed by your instructor.
7. Your laboratory report, available on the course laboratory website, is emailed to me (kirk.boraas@minneapolis.edu) as a .pdf file no later than the Sunday before the next lab meeting.

Email: Subject line must contain the title of the experiment and the words "**Principles 1 Report**"

.pdf File name: **Your_Name_Experiment_Name_REPORT.pdf**

Example: **Kirk_Boraas_Beer's law_REPORT.pdf**

For file security reasons, I do not accept anything other than .pdf files. If you send a report in a different format, you will receive no credit for the report.

	Laboratory	Content Description	Important Dates & Times
Week 1 (M 1/8 – 1/12 F)	L1: Required lab meeting Introductions Lab Notebooks	Chemistry Calculators Energy Units Measurements Density Sig Figs and Temperature Dimensional Analysis	Friday 1/12 Drop/Add deadline
Week 2 (M 1/15 – 1/19 F)	<u>No Laboratory This Week</u>	Atoms and Atomic Theory Subatomic Structure and Periodic Table Isotopes, Avg Atomic Mass Mass Spectrometry Atomic Moles More Moles!	Monday 1/15 Holiday No Classes
Week 3 (M 1/22 – 1/26 F)	L2: Computer Survival	Atoms Molecules and Bonds Ionic Compounds, Polyatomic ions and Formula Units Ionic and Molecular Nomenclature Formula Mass and Molar Mass Calculations	
Week 4 (M 1/29 – 2/2 F)	L3: Graphical Analysis	Composition, Mass Percent Empirical Formulae Determination Balancing Chem Rxn's Nomenclature of acids, bases and hydrated salts	
Week 5 (M 2/5 – 2/9 F)	L4: Alum Synthesis	Reaction Stoichiometry Limiting and Excess Reactants Actual and Percent Yield Molarity and Concentration Solution Precipitation Molecular, Ionic and Total Ionic Equations Reaction Types and ID Gases and Pressure	
Week 6 (M 2/12 – 2/16 F)	L5: Gas Laws	Simple Gas Laws Ideal Gas Law Gas Law Applications Gas Mixtures Dalton's Law: Partial Pressures Kinetic Theory of Gases Real Gases	
Week 7 (M 2/19 – 2/23 F)	<u>No Laboratory This Week</u>	The First law of Thermodynamics Heat and Work Enthalpy Const. Pressure Calorimetry	Monday 2/19 Holiday No Classes
Week 8 (M 2/26 – 3/1)	L6: Calorimetry	Const. Volume Calorimetry Hess's Law	
M 3/4 – 3/8 F	Spring Break!		
Week 9 (M 3/11 – 3/15 F)	<u>No Laboratory This Week</u>	Light as a Wave Spectroscopy and the Bohr Atom Particle Theory of Matter Quantum Mechanics and the Atom	Monday 3/11 ONCAMPUS Exam # 1 (3 hrs) During Laboratory times

Week 10 (M 3/18 – 3/22 F)	L7: Spectroscopy	Orbital Shapes and Atoms Electron Configurations e- configs for ions, exceptions and Valence Electrons	
Week 11 (M 3/25 – 3/29 F)	L8: Beer's Law	Trends in Atomic and Ionic Radii Ionization Energy Electron Affinity Bonding Survey and Atomic Lewis Structures Ionic Bonding and Lattice Energy	Thursday 3/28 No Classes
Week 12 (M 4/1 – 4/5 F)	L9: Solution Conductivity	Covalent Bonding and Lewis Structures Electronegativity and Bond Polarity Molecular Lewis Structures Resonance and Formal Charge	
Week 13 (M 4/8 – 4/12 F)	L10: Acetic Acid Titrations	Exceptions to the Octet Rule and the Expanded Octet Bond Energies and Lengths VSEPR Theory Lone Pair and Molecular Geometry Dipole Moment and % Ionic Character	
Week 14 (M 4/15 – 4/19 F)	L12: Molecular Modeling	Bond Polarity and Molecular Polarity Net Dipole Moment Valence Bond Theory 1 Valence Bond Theory 2 Valence Bond Theory 3 Valence Bond Theory 4	
Week 15 (M 4/22 – 4/26 F)	L13: Cycle of Copper	Intermolecular and Intramolecular forces Intermolecular Forces Physical Effects Vapor Pressure and The CC Equations Sublimation and Fusion	
Week 16 (M 4/29 – 5/3 F)	<u>No Laboratory</u> <u>This Week</u>	Heating Curves and Calculations Phase Diagrams Water: A Unique Substance	Monday 4/29 ON CAMPUS EXAM #2 (3 hrs) During laboratory Times Friday 5/3 No Classes
Week 17 (M 5/6 – 4/10 F)	Final Exam Week		Monday 5/6 ONCAMPUS Optional Final Exam (3 hrs) 6 – 9 PM