

Chemistry 1302A • Fall 2024-25

Discovering Chemical Energetics

Welcome to Chem 1302A!

Please read this important information and refer to this document throughout the term.

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| Course Description..... | 1..... |
| Key Dates..... | 2..... |
| Course Website..... | 2..... |
| Learning Outcomes..... | 2..... |
| Teaching Team & Contact..... | 3..... |
| Learning Support & Resources..... | 4..... |
| Course Materials..... | 5..... |
| Course Topics..... | 6..... |
| Laboratory Information..... | 7..... |
| Evaluation..... | 9..... |
| How to Achieve Your Goals in Chem 1302..... | 11..... |
| Student Absences and Missed Course Components..... | 12..... |
| Academic Policies and Legalities..... | 15..... |
| Accessibility and Religious Accommodations | solubility, weak acids and |



bases, electrochemistry, and chemical kinetics.

Prerequisite Grade 12U Chemistry (SCH4U) or equivalent. Grade 12U Advanced Functions (MHF4U) or Calculus & Vectors (MCV4U), or Mathematics 0110A/B or 0105A/B, is strongly recommended.

Antirequisites: The former Chem 1024A/B

Extra Information: 3 lecture hours, 1.5 laboratory hours (3 hours every other week).

Note: Students repeating the course must repeat the lab component. There are no exemptions.

Unless you have either the prerequisites for this course or written special permission from your Dean to enroll in it, you may be removed from this course and it will be deleted from your record. This decision may not be appealed. You will receive no adjustment to your fees in the event that you are dropped from a course for failing to have the necessary prerequisites.

Key Dates

| Dates in 2024 | Event |
|-----------------------------|---|
| Friday, September 6 | Course begins. Attend your first Chem 130A class! |
| Friday, September 13 | Last day to add a second term half course or make changes to lab section enrolment. |
| Friday, September 20 | OWL IntroActivity and OWL Pre-Test due by 11:55 pm. First designated class for team-based problem-solving. Lab location and personalized Achieve lab site link available on OWL. Sign up on Achieve and complete initial online activities prior to your first lab. |
| Monday, September 23 | First week of laboratory rotations. |
| Monday, September 30 | National Day for Truth and Reconciliation, no classroom instruction |
| Saturday, October 5 | Midterm Test #1 12:00–4:00 pm (Locations TBA on OWL) |
| Monday, October 14 | Thanksgiving and beginning of Fall Reading Week (Oct 12–14) |
| Friday, November 15, 7–9 pm | Midterm Test #2 (Locations & Time TF2.9 (A.2 0.4n-0.9 3 0 TO32.500)-1C.5007) |

Describe the importance of chemistry in everyday life and the interdisciplinary nature of chemistry.

Use critical thinking skills to explain, make connections between and apply chemical principles, laws, and theories pertaining to ideal gases, thermodynamics, chemical equilibria, electrochemistry, and chemical kinetics.

Evaluate and assess chemical data and explain how they relate to chemical theories/laws.

Apply chemical theories or laws to solve a variety of new qualitative and quantitative chemical problems.

Conduct laboratory experiments and (n) 2.39 (m) 6.4 (is) 9.6 (t) 3 (n) 4 (is) 9.7 (t) 11. EMC (s) 9.6 (an) 1.4 (u) 6 (g) /MCID 9 > 6 3 bnd (is) 9.66.033 du, akmiemdesg /MCID 9 > 6 3 as.mso.6 (o) 6.6 (r) 10.7-1.761

- x Questions that can be answered based on the information found in this course outline. Refer to the course outline first.
- x Questions about course material. Such questions should be taken to the Resource Room or posted on the OWL forum.
- x Requests for grade increases, extra assignments, makeups, etc. Refer to the section below entitled Equal Opportunity and Evaluation Policy

Constructive feedback is valuable to us. Please contact us if you have any comments or feedback on Chem 1302A

Learning Development & Success Learning-skills professionals at Learning Development & Success (LDS <https://learning.uwo.ca>) are ready to help you improve your learning skills. They offer presentations on strategies for improving time management, multiple-choice exam preparation/writing,

Laboratory Information

Access, Schedule, and Location

Our course has partnered with Macmillan for the lab component. Macmillan's Achieve platform will be used for lab preparation and submission. You will be provided with a personalized link (via OWL) by September 2nd to sign up on Achieve. You must sign up using your personalized link, Western email address (@uwo.ca email address), and access code in your lab manual before your first lab.

The laboratory section in which you are registered is the only section that you may attend. Your lab section number (along with day of the week and time for your lab) can be found on your current timetable on Student Centre. Refer to the schedule below to determine which weeks your experiments will occur, based on your lab section. Each course has its own lab schedule, so do not assume that your chemistry lab schedule will follow another course's schedule.

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You are encouraged to submit your lab report components well in advance of the due date.

Western mandates “shoulder-toe” coverage in a lab. Details are found in the lab manual. Everyone must wear a buttoned lab coat at all times in the laboratory. Everyone must wear ankle-length pants, socks that cover the ankle, and shoes that cover the whole foot (top, sides, and back) without any mesh areas or “cutout holes”. Shorts, sandals, crocs, and capris are among the items of clothing that are not acceptable. No skin may show at the ankles even when you are seated. Pants with rips or tears, or leggings with mesh panels, are not acceptable. For hygienic reasons, shoes, socks, pants, lab coats, and safety glasses are available for rent.

Lateness Policy

Any student who arrives after the doors to the lab have closed, when the “TA talk” begins, is considered late and will not be permitted to do the experiment. Late students will be assigned a mark of zero for the entire experiment. It may be possible to replace the mark of zero by writing a lab makeup quiz (see later).

Evaluation

Components

Your overall course grade, out of 100, will be calculated as follows: (1) 20% (2) 20% (3) 20% (4) 20% (5) 20% (6) 20% (7) 20% (8) 20% (9) 20% (10) 20% (11) 20% (12) 20% (13) 20% (14) 20% (15) 20% (16) 20% (17) 20% (18) 20% (19) 20% (20) 20% (21) 20% (22) 20% (23) 20% (24) 20% (25) 20% (26) 20% (27) 20% (28) 20% (29) 20% (30) 20% (31) 20% (32) 20% (33) 20% (34) 20% (35) 20% (36) 20% (37) 20% (38) 20% (39) 20% (40) 20% (41) 20% (42) 20% (43) 20% (44) 20% (45) 20% (46) 20% (47) 20% (48) 20% (49) 20% (50) 20% (51) 20% (52) 20% (53) 20% (54) 20% (55) 20% (56) 20% (57) 20% (58) 20% (59) 20% (60) 20% (61) 20% (62) 20% (63) 20% (64) 20% (65) 20% (66) 20% (67) 20% (68) 20% (69) 20% (70) 20% (71) 20% (72) 20% (73) 20% (74) 20% (75) 20% (76) 20% (77) 20% (78) 20% (79) 20% (80) 20% (81) 20% (82) 20% (83) 20% (84) 20% (85) 20% (86) 20% (87) 20% (88) 20% (89) 20% (90) 20% (91) 20% (92) 20% (93) 20% (94) 20% (95) 20% (96) 20% (97) 20% (98) 20% (99) 20% (100) 20%

Essential Learning Requirements

To receive a passing grade in Chem 130A, you must fulfill all three of these conditions:

1. Obtain a minimum overall course grade of 50%.
2. Obtain a minimum of 50% on the laboratory component (8.00/16.00). This mark is

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|------------|--------------|--------------|--------------|
| Chapter 1 | September 6 | September 20 | September 23 |
| Chapter 2 | September 30 | October 4 | October 7 |
| Chapter 3A | October 21 | October 25 | October 28 |
| Chapter 3B | November 4 | | |

1. Study the material and do practice problems at least twice each week. Like many sciences, chemistry is a cumulative subject, and one topic acts as a foundation for the next, so it is essential to stay up-to-date with the material.
2. Work with your team to complete the team-based problem-solving modules. Discuss the questions, clarify concepts, and explain your problem-solving approach with one another.
3. Learn why something is the way it is, not just what it is. Please realize that memorization is not the same as learning and understanding. When working on questions from the workbook, focus on the concepts, the thought process, how to arrive at the answer, and why the answer is the answer.
4. Don't just attend lecture - get something out of the experience! Think Engage Write down key points. Sketch out connections. Record any questions you have and follow up on those questions.
5. Visit the Resource Room or post your questions to the OWL Discussion. Ask these questions as they arise rather than waiting until just before an assessment.
6. Labs are intended to be an enjoyable experience. Prepare each lab in advance by reading the lab manual and doing the prelab exercises. Think and ask about the theory and the concepts behind the experiment. Be mindful of the details. Check with your TA if you have any questions or ideas.
7. Complete all the practice problems in the workbook for each topic. Work through the previous year's tests and exams under simulated test conditions to evaluate your studying, knowledge, and application abilities. Avoid just checking the answers; let yourself think and try different approaches before

If a student mistakenly submits their one allowed Academic Consideration request without supporting documentation for the assessments listed above or those in the section below that do not require academic consideration, the request cannot be recalled and reappplied. This privilege is forfeited. In Chem 1302A, selected course components have no flexibility. For these course components, academic consideration requests will be denied:

- x OWL Intro Activity
- x OWL PreTest
- x iClicker
- x Team Based Problem Solving Modules
- x Midterm Tests (if Test #1 OR Test #2 is missed)

Students are expected to submit their assignments by the deadlines listed in the course outline and attend the midterm tests and final exam. Should extenuating circumstances apply, refer to the following table for applicable policies and actions

| Policies & Actions | | | |
|-------------------------|---------------------------------|---|---------------------------------|
| Missed Course Component | = Obtain academic consideration | = Submit a ticket to chemistry course support | = Submit the Lab Make-Up Survey |

Western University is committed to reducing incidents of gender-based violence and providing compassionate support to anyone who has gone through these traumatic events. If you have experienced sexual or gender-based violence (either recently or in the past), you will find information about support services for survivors, including emergency contacts

at https://www.uwo.ca/health/student_support/survivor_support/gethelp.html or by emailing support@uwo.ca.

Western University is committed to a thriving campus as we deliver our courses in the mixed model of both virtual and face-to-face formats. We encourage you to check out the Digital Student Experience website to manage your academics and wellbeing: <https://www.uwo.ca/se/digital/>.

Additional student-run support services are offered by the USC, <http://westernusc.ca/services/>

This course is supported by the Science Student Donation Fund. If you are a BSc or BMSc student registered in the Faculty of Science or Schulich School of Medicine and Dentistry, you pay the Science Student Donation Fee. This fee contributes to the Science Student Donation Fund, which is administered by the Science Students' Council (SSC). One or more grants from the Fund have allowed for the purchase of equipment integral to teaching this course. You may opt out of the Fee by the end of September of each academic year by completing the online form hosted on the Faculty of Science Academic Counselling website. For further information on the process of awarding grants from the Fund or how these grants have benefitted undergraduate education in this course, consult the chair of the department or email the Science Students' Council at uncil@uwo.ca.