CHEM 030, Chemistry 030A/X

5 credits, 6 hours lecture, 2 hours lab on alternate weeks

Instructor

Patricia Collins

Office S209 C

780-791-8955

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Office Hours

Monday	10:00 a.m. – 10:50 a.m.
Tuesday	10:00 a.m. – 10:50 a.m.
Wednesday	10:00 a.m. – 10:50 a.m.

Delivery Method(s):

In-person – offered in person (face-to-face) on campus.

Hours of Instruction & Location

Day	Time	Location
Monday	8:00 am – 9:50 am	CC235
Tuesday	8:00 am – 9:50 am	CC235
Wednesday	8:00 am – 9:50 am	CC235
Friday Lab	10:00 am – 11:50 am	~~CC236 (Chemistry Lab)~~ S214

Required Resources

Chemistry 030 Student Manual, available in print from the Keyano Bookstore

Other lecture resources:

- **Calculator**, scientific or graphing

Lab resources, to fit into an **extra-large Ziploc bag** ****PLEASE WAIT BEFORE PURCHASING****

- **Sharpie** fine point permanent marker, black
- **Lab Coat** (must be knee-length)
- **Safety goggles** (one of: Honeywell North VMAXX 112-508-10, **or** Honeywell UVEX Stealth S3970D **or** Honeywell UVEX Classic 360 S360)

Assessment Details and Dates

Chemistry 030 has a number of assignments, quizzes, and lab reports; please refer to the **Moodle Calendar** for all due dates and scheduling details.

For full marks, all work must be received in hard copy and in person, in class, on the due date. If you need extra time to complete assignments or lab reports, they will receive

a. the earned grade, minus 5%, if received after class on the due date.
b. the earned grade, minus 20%, for each additional day late.
c. a mark of zero if received after it has been returned, OR if pushed under my office door at any time.

There will be no alternative, "make-up", or "extra credit" assignments, quizzes, or labs for this course.

Assessment	Weighting	Course Learning Outcome
Assignments & Quizzes	20%, with the lowest 2 grades dropped	CLO 1, 2 (Unit 1) CLO 4, 5 (Unit 2) CLO 2, 3 (Unit 3) CLO 2, 6, 7, 8 (Unit 4) CLO 2, 9, 10 (Unit 5)
Lab Reports	15%	CLO 1, 11, 12 (Exp #1) CLO 5, 11, 12 (Exp #2) CLO 3, 11, 12 (Exp #3) CLO 8, 11, 12 (Exp #4) CLO 6, 11, 12 (Exp #5) CLO 9, 11, 12 (Demo Lab)
Midterm Exam (Units 1 - 3)	30%	CLO 1 – 5
Lab Exam	5%	CLO 10 - 12
Final Exam (Units 4 & 5)	30%	CLO 2, 6 - 10

Proposed Course Schedule

Week #; all face-to-face delivery	Topic(s), Activities, Readings	Graded Assessments	Tentative Lab & Due Dates
Week 1 Jan 6 - 10	**Classes start Thursday, November 9th—no Chem 030 lectures or lab this week**		
Week 2 Jan 13 - 17	**UNIT 1: Building Blocks (Review)** Inorganic Nomenclature Balancing Chemical Equations Inorganic Reaction Types Completing Chemical Reactions **Experiment #1: Precipitation Reactions and Net Ionic Equations**	Review of Compounds & Elements Nomenclature quiz	See Moodle See Moodle **Fri Jan 17th**
Week 3 Jan 20 - 24	Completing Chemical Reactions Net Ionic Equations Simple Calculations Stoichiometry	Simple calculations ass't	See Moodle
Week 4 Jan 27 - 31	% Yield Limiting Reagent Stoichiometry **UNIT 2: Organic Chemistry** Nomenclature and Structural Diagrams for Alkanes, Alkenes, and Alkynes	Exp #1 formal lab report Stoichiometry ass't	See Moodle See Moodle
Week 5 Feb 3 - 7	Structural Isomers Nomenclature and Structural Diagrams for Aromatic Compounds and Hydrocarbon Derivatives **Experiment #2: Esterification**	Hydrocarbons ass't Exp #2 informal lab report	See Moodle **Fri Feb 7th**
Week 6 Feb 10 – 14	Organic Reaction Types **UNIT 3: Thermochemistry** Terminology, ΔH notation and Energy Diagrams Thermochemical Stoichiometry	Organic reactions ass't	See Moodle
Week 7 Feb 17 – 21	**READING WEEK – NO CLASSES**		
Week 8 Feb 24 – 28	Measuring ΔH using Calorimetry Molar Enthalpy Calculations Calculating ΔH using Hess' Law **Experiment #3: Calorimetry**	Thermo Intro & Stoich quiz	See Moodle **Fri Feb 28th**

Proposed Course Schedule (cont'd)

Week #; all face-to-face delivery	Topic(s), Activities, Readings	Graded Assessments	Tentative Lab & Due Dates
Week 9 Mar 3 – 7	Calculating ΔH using Enthalpies of Formation Energy Sources and Conversions **UNIT 4: Acid-Base Equilibrium** Review of Arrhenius Acid-Base Theory Acid-Base Titrations: Stoichiometry and Titration Curves	Hess' Law & Enthalpies of Formation quiz	See Moodle
Week 10 Mar 10 - 14	pH of Strong Acids and Bases Chemical Equilibrium & K_{eq} Calculations **Experiment #4: Acid-Base Titration**	**MIDTERM EXAM** Exp #3 formal lab report	**Mon Mar 10th** See Moodle **Fri Mar 14th**
Week 11 Mar 17 - 21	Le Châtelier's Principle Brønsted-Lowry Acid-Base Theory Predicting Net Reactions **Experiment #5: Brønsted-Lowry Acids and Bases**	Equilibrium & Le Châtelier quiz Exp #5 informal lab report	See Moodle **Fri Mar 21st**
Week 12 Mar 24 - 28	Brønsted-Lowry Systems: Acid-Base Indicators and Buffers pH of Weak Acids and Bases	Exp #4 formal lab report	See Moodle
Week 13 Mar 31 – Apr 4	**UNIT 5: Electrochemistry** Terminology, Oxidation Number Rules, and Identifying Redox Reactions Methods of Balancing Redox Equations Using a Table of Reduction Strengths **Demo Lab**	Weak acid-base calc's ass't Oxid #'s and balancing quiz Demo lab informal report	See Moodle See Moodle **Fri Apr 4th**
Week 14 Apr 7 – 11	Predicting Net Redox Reactions Galvanic (Voltaic) Cells Corrosion of Metals Electrolytic Cells	Predicting ass't **LAB EXAM**	See Moodle **Fri Apr 11th**
Week 15 Apr 14 – 18	Electrolytic Cells (cont'd) Redox Stoichiometry	**FINAL EXAMS START THURS APR 17th**	
Week 16 Apr 21 – 25	**EXAMS – NO CLASSES**		

Please Note:

- The date and time allotted to each topic are subject to change.
- Students will have access to their Moodle course shells for 15 days following completion of their course.
- Every effort has been made to ensure that the information in this course syllabus is accurate at the time of publication. Keyano College reserves the right to change the course syllabus content if it becomes necessary so that course content remains relevant. Any changes to the course syllabus during the semester will be communicated to students in writing by the instructor in a timely manner. A revised course syllabus will be posted to the LMS.
- A minimum GPA of 1.7 or higher is required for students to remain in good academic standing and progress to the next semester, unless otherwise indicated for a specific program.

Keyano Performance Requirements and Student Services

Student Responsibilities

As a student, it is your responsibility to contact the Office of the Registrar to complete the required forms, including the Withdrawal/Drop Form. All forms are available on the College website. Please refer to the important dates listed in the Academic Schedule in the Keyano College credit calendar and/or on the College website. It is the responsibility of each student to be aware of the guidelines outlined in the Student and Academic Policies.

Student Attendance

Class attendance is helpful for two reasons: First, class attendance maximizes a student's learning experience. Second, attending class is an excellent way to keep informed of matters relating to the course administration (e.g., the timing of assignments and exams). Ultimately, you are responsible for your learning and performance in this course. It is the responsibility of each student to be prepared for all classes. Absent students are responsible for the material covered in those classes, and students must ensure they are ready for their next class, including completing any missed assignments and notes.

As Chemistry 030 is designed as a ***face-to-face course***, extended or frequent absences *for any reason* can impact your overall mark. Suggestions for handling occasional absences include:

- finding a "classroom buddy" whom you can contact for details regarding what you have missed.
- using Moodle: log into ilearn.keyano.ca to check the Calendar and see slide notes and pre-recorded audio PowerPoint lessons.
- using OneNote: this is the class notebook where I record daily lesson outlines and homework. Search your Keyano email during the first week of classes for an invitation from SharePoint, or use your Keyano credentials to log into onenote.com
- using your Keyanomail to get in touch with me. You will receive responses during office hours.

Laboratory Safety

Students must complete the ***WHMIS for Students*** **online training course** on Moodle before entering the science laboratories.

Students must comply with the mandatory laboratory safety rules for this course as provided in the laboratory manual. Failure to do so will result in progressive discipline such as a verbal warning, refused entry into the laboratory, or suspension from the College.

Before entering the lab, students are responsible reviewing the lab manual and relevant Safety Data Sheets for the purpose of evaluating risks associated to health. Some hazards used in the laboratory may have additional risks to those with pre-existing medical conditions.

On lab dates, please plan to arrive at the lab 10 minutes prior to the start. For safety reasons, students who arrive late or improperly dressed will NOT be permitted into the lab and *will receive a mark of zero* for all related lab work, including any pre-lab quizzes and lab reports. Please note there are no make-up labs or make-up lab assessments, so plan to be present at all labs.

Course Evaluation

Midterm exams and term work is to be completed at the time/date indicated in your course syllabus. It is the expectation of the College that students make every reasonable effort to complete all course evaluation, including, quizzes, midterms, and exams, as scheduled. In the event of an emergency, rescheduling of exams and/or extensions are only provided at the discretion of the course instructor. Students should contact the instructor as soon as they are able, to notify them of missing an evaluative component. Instructors will use discretion in deciding whether circumstances justify granting a reschedule and/or extension.

Regular term quizzes, midterms, and exams are not eligible for deferral and/or date extension accommodations. Students with accommodations, please refer to Accessibility Services.

Final Exams are subject to deferral processes, please refer to the current Keyano College Credit Calendar.

Academic Integrity & Misconduct

Academic integrity requires commitment to the values of honesty, trust, fairness, respect, and responsibility. It is expected that students at Keyano College will adhere to these ethical values in all activities related to learning, teaching, research, and service. Any action that contravenes this standard, including misrepresentation, falsification, or deception, undermines the intention and worth of scholarly work and violates the fundamental academic rights of members of our community.

Academic dishonesty takes many forms:

- Plagiarism or the submission of another person's work as their own,
- The use of unauthorized aids in assignments or examinations (cheating),
- Using Artificial Intelligence (AI) to complete coursework (without instructor approval),
- Collusion or the unauthorized collaboration with others in preparing work,
- The deliberate misrepresentation of qualifications,
- The willful distortion of results or data,
- Substitution in an examination by another person,
- Submitting unchanged work for another assignment, and
- Breach of confidentiality.

In all academic work, the ideas and contributions of others must be appropriately acknowledged and work that is presented as original must be, in fact, original. Using an AI-content generator (such as ChatGPT) to complete coursework without proper attribution or authorization is a form of academic dishonesty. If you are unsure about whether something may be plagiarism or academic dishonesty, please contact your instructor to discuss the issue.

The consequences for academic misconduct range from a verbal reprimand to expulsion from the College. More specific descriptions and details are found in the *Student & Academic Policies* section of the Keyano College credit calendar. It is the responsibility of each student to be aware of the guidelines outlined in the Student Rights, Academic Integrity, and Non-Academic Misconduct Policies.

To ensure your understanding of plagiarism and academic integrity, you are required to complete the online Understanding Academic Integrity tutorial (https://keyano.libwizard.com/f/academic-integrity-tutorial) and submit the certificate of completion to your instructor(s).

Online Learning

Technology and internet connectivity will impact your online learning experience. You may be required to watch online videos, take online quizzes, or participate in live online classes. Live/virtual courses will be hosted in Microsoft Teams or Zoom. For all course delivery types, you will access your course outline, course syllabus and course resources on Keyano's learning management system: Moodle (iLearn). Login in using your Keyano username and password. Keyano College operates in a Windows-based environment and having access to the correct tools for online learning is essential.

Computer System Requirements

Keyano College software are Windows based.

Minimum Requirements and Recommended Upgrades for Windows (preferred system) and Apple devices These minimum standards are required for a Windows computer/laptop (OS 10 or 11) and a MacIntosh (OS 10.14 or above).
1. Windows 10 Operating System or above. 2. 4GB of RAM. Recommended upgrade to 8GB of RAM. 3. 10GB+ available hard drive storage space. Note installing Microsoft Office 365 requires 3GB of available hard drive space.   a. Install the Microsoft Office 365 suite (~3GB) ***** 4. Microphone, webcam, and speakers (All modern laptops have these three accessories built-in). However, a headset or earbuds with a microphone is also recommended. 5. Windows has built-in anti-virus/malware software. It is essential to install system updates to keep your device secured regularly. *****Microsoft Office 365 is free to Keyano students.
Tablets, iPads, and Chromebooks are **not** recommended: They may not be compatible with your programs such as lockdown browsers used for assessments and/or Microsoft Office 365.

Computer Software

Students have access to Microsoft Office 365 and Read & Write for free using Keyano credentials.

See Recommended Technology for more information.

Recording of Lectures and Intellectual Property

Students may only record a lecture if explicit permission is provided by the instructor or Accessibility Services. Even if students have permission to record a lecture or lecture materials, students may not share, distribute, or publish any of the lectures or course materials; this includes any recordings, slides, instructor notes, etc., on any platform. Thus, no student is allowed to share, distribute, publish, or sell course-related content without permission. It is important to recognize that the Canadian Copyright Act contains provisions for intellectual property. The Academic Integrity Policy provides additional information on Keyano College's expectations from students as members of the intellectual community.

ITS Helpdesk

If you have issues with your student account, you can contact the ITS Helpdesk by emailing its.helpdesk@keyano.ca or calling 780-791-4965.

Specialized Supports

Keyano College is committed to Keyano students and their academic success. There is a variety of student support available at Keyano. All student services are available during Keyano business hours: Monday to Friday, 8:30 a.m. to 4:30 p.m. The College is closed on statutory holidays. If you require support outside of regular business hours, please inform the support service team, and they will do their best to accommodate your needs.

Accessibility Services provides accommodations for students living with disabilities. Students with documented disabilities or who suspect a disability can register to discuss their current learning barriers and possible accommodations. Students are required to request accommodations for each term. Please note that requesting accommodations is a process and requires time to arrange. Contact the department as soon as you know you may require accommodations to ensure timely implementation. For accessibility supports, adaptive technology, learning strategies and disability-based funding, please register with Accessibility Services by emailing wellness.services@keyano.ca, or visiting www.wellnessxp.net/wellness/**,** or scanning this qr code below.

Wellness Services offers a caring, inclusive, and respectful environment where students can access free group and individual support to meet academic and life challenges. Mental Health Coordinators provide a safe and confidential environment for you to seek help with personal concerns. Our Wellness Navigator offers support with finding basic needs such as housing, financial and nutritional support, and outside referrals when needed. Wellness Services welcomes students to participate in group sessions that address topics including mindfulness and test anxiety throughout the academic year. Individual appointments can be made by emailing wellness.services@keyano.ca, or visiting www.wellnessxp.net/wellness/, or scanning this qr code below.

The **Library** provides students with research, information, and educational technology services and spaces as they engage in their studies. The Library is located at CC-166 or www.keyano.ca/library. Library staff are available to help students online and in person throughout the semester. Librarians offer individual and small group consultations booked using the online Book A Librarian calendar. The library also provides virtual research and subject guides to help you with your studies. Find the guide that supports your course-related research by viewing the complete list of online Subject Guides. To start your research and access citation guides (APA, MLA, Chicago, or IEEE), visit the Research Help page. The library's collections (including print and online materials) are searchable using EDS (EBSCO Discovery Service) on www.keyano.ca/library/find. The library offers a Loanable Technology collection to support students accessing and using technology. For an up-to-date list of technology available for borrowing, visit the library's Loanable Technology webpage. For a detailed list of library resources and services, go to www.keyano.ca/library. For all inquiries, please email askthelibrary@keyano.ca or chat with us online.

The **Academic Success Centre (ASC)** provides free academic support services to registered students, such as tutoring, writing support, facilitated study groups, workshops, and study space. Academic Content Specialists are available in Business, Mathematics, Science, English, Humanities, Power Engineering, Upgrading/College Prep, and more. Peer Tutors are available to provide peer academic support to students in all college programs, such as Nursing, Business, Education, Environmental Science, among others. Students are encouraged to visit the Academic Success Centre at CC-119 to discuss strategies for academic success. Specialists in the Academic Success Centre also work with students to develop academic success plans, time management skills, study strategies, and homework plans. For additional information, please email Academic.Success@keyano.ca

Work Integrated Learning (WIL) is located in the ASC in CC-119. Career Services WIL staff assist students with their program-related WIL and co-op placements, provide resume advice, and support with using the GradLeaders platform. Additionally, they coordinate several career fairs for students throughout the academic year and host coop and resume workshops for students. Students can reach WIL by emailing: WIL@keyano.ca or by visiting them in person.

Course Syllabus Template Version 1.0

Signatures & Date

Name of Instructor: Patricia Collins

Instructor Signature: Patricia Collins

Date: Dec. 17/24

Name of Course Lead: n/a

Course Lead Signature: n/a

Date:

Name of Chairperson/Program Manager: Patricia Collins

Chairperson/Program Manager Signature: Patricia Collins

Date: Dec. 17/24