

CHEM 3061 – Environmental Chemistry

Winter 2023

Professor: Dr. Cora Young email: youngcj@yorku.ca
Lecture time: Tuesday, Thursday 11:30-12:45
Lecture location: Tuesday: FC 104 Thursday: ACE 007
Office hour: Monday 16:00 on Zoom (link on eClass) or by appointment
Prerequisite: CHEM 2021

Structure of Course Evaluation

Course component	Evaluation Scheme 1*	Evaluation Scheme 2*
Assignments (3 equally weighted)	36	45
Quizzes (2 equally weighted)	24	45
Participation	5	5
Encounters (2 equally weighted)	5	5
Final exam	30	--
Total:	100	100

**Evaluation Scheme 1 is the default. You must complete all three assignments and both quizzes to be eligible for Evaluation Scheme 2. See below for more information.*

Dates for Course Evaluation

Tuesday, February 7, 2023	Assignment 1 due date
Thursday, February 16, 2023	Quiz 1
Tuesday, February 28, 2023	Encounters 1 due date
Tuesday, March 14, 2023	Assignment 2 due date
Thursday, March 23, 2023	Quiz 2
Tuesday, April 4, 2023	Assignment 3 due date
Thursday, April 6, 2023	Encounters 2 due date

Evaluation Details

Assignments

- Assignments will involve assigned problems that apply material learned in lecture.
- All assignments will be submitted through Crowdmark.
- Assignments are due at 11:30 am on the date indicated. Late assignments will be accepted with a penalty of 10 % for work received after class on the due date and an additional 10 % per calendar day up to 3 days after the due date. If you are unable to complete assignments due to illness or other reason, the value of the assignment will be added to the weight of the final exam. You do not need to contact Dr. Young—the weight of the missed assignment will be added to the value of the final exam automatically. Note that failure to submit an assignment leads to ineligibility for Evaluate Scheme 2.
- If you believe a written answer on an assignment was marked incorrectly, a detailed rationale must be submitted to Dr. Young within 5 business days of the return of the assignment. NOTE: re-marking can result in the mark being raised, confirmed, or lowered.

Participation

- Participation will be assessed using iClicker REEF.
- iClicker marks are gained based on **participation only**.
- Clicker questions will be provided in an “assignment” format and can be completed live during lecture or later on.
- York has a free subscription to iClicker REEF, so do not make any purchase even if prompted.
- **Ensure your correct student number is associated with your iClicker account.** Failure to do so may mean that your participation is not counted.
- Clicker questions can be completed up to 2 weeks after the corresponding lecture (or until the end of classes, whichever comes first).
- Join our iClicker class using the link on eClass under “Useful Links” section.

Encounters

- You will submit brief reflections on 2 encounters in their lives (e.g. news story, movie, etc.) that have been affected by your learning in this course.

Quizzes

- Quizzes will be completed in person during class time on the dates indicated above.
- Quizzes will be open book.
- If you are unable to write the quiz due to illness or other reason, the value of the quiz will be added to the final exam. You do not need to contact Dr. Young—the weight of the missed quiz will be added to the value of the final exam automatically. Note that failure to write a quiz leads to ineligibility for Evaluate Scheme 2.
- If you believe a written answer on a quiz was marked incorrectly, a detailed rationale must be submitted to Dr. Young within 5 business days of the return of the quiz. NOTE: re-marking can result in the mark being raised, confirmed, or lowered.

Exam

- A comprehensive, open book exam will be held during the university’s exam period.
- If you achieve a better grade on the exam than on one or both quizzes, the quiz grade(s) will be replaced by the exam grade.

Evaluation Scheme 2

- The default evaluation scheme is Evaluation Scheme 1.
- **If you complete all 3 assignments and both quizzes, you may opt to have your grade assessed using Evaluation Scheme 2.** There is no grade threshold. You must just have submitted responses for all assignments and written both quizzes.
- A form will be made available on eClass near the end of term for you to opt in to Evaluation Scheme 2. If you do not complete the form or if you are ineligible for Evaluation Scheme 2, the default evaluation (evaluation Scheme 1) applies and you will be expected to write the final exam. **It is your responsibility to assess your own eligibility.**

Additional course policies

Email etiquette

- You must use their YorkU email address and include “CHEM 3061” in the email subject line.
- Use professional language in emails, including a salutation and a signature that includes full name and student number.
- Complex questions about course material are typically not effectively addressed using email. For these types of questions, it is best to attend office hours or ask questions during class.

- Note that Dr. Young runs a large research group in addition to her teaching duties and receives dozens of emails per day. You should make an effort to find information on eClass, the syllabus, and/or from classmates before sending an email. Dr. Young will make every effort to respond to emails within one business day.

Accessibility and religious accommodations

- If you are registered with Accessibility Services, you must submit accommodation letters to via email to Dr. Young by January 31, 2023.
- Any religious observance conflicts occurring at any point during the term should be communicated by email to Dr. Young by January 31, 2023.
- Note: "Senate policy states that students are expected to monitor their progress in courses, taking into account their personal and academic circumstances, and to make the necessary adjustments to their workload to meet the requirements and deadlines." (from Senate Policy of Students' Responsibilities in the Petition/Appeal Processes). The drop deadline is March 17, 2023.

Academic honesty

- Any student who breaches York's Academic Honesty Policy will be reported. Some offences include:
 - Plagiarism (passing off someone else's work as your own).
 - Unauthorized collaboration on assignments, quizzes, or exams.
 - Accessing unauthorized sites for assignments, quizzes, or exams.
 - Uploading work to third party repository sites (e.g., Course Hero, etc)
 - Scanning, sharing, uploading, or publishing assignments or quizzes.
- Information regarding the consequences for academic dishonesty at York University can be found in the "Academic dishonesty consequences" document on eClass.
- Students are strongly encouraged to familiarize themselves with these policies. Ignorance of the policies is not an acceptable excuse. <https://spark.library.yorku.ca/academic-integrity-what-is-academic-integrity/>

Course Description

This course introduces students to mechanisms underlying chemical sources and fate in the environment. The reactions and partitioning of organic and inorganic compounds will be discussed on a molecular level allowing students to understand and predict chemical fate and distribution. Critical environmental processes that determine the fate of organic pollutants, including abiotic oxidation and reduction reactions, as well as biological processing, will be examined. The biogeochemical cycles and reactions that determine the environmental fate of metals will be described. The chemistry driving important environmental issues, including ocean acidification, pollutant transport, and bioaccumulation will also be addressed. Students will gain an appreciation for and become familiar with the current state of understanding chemical mechanisms in the environment.

Course Goals

Upon completion of this course, students should be able to:

- Understand and explain the molecular-level chemistry underlying important processes of environmental concern.
- Predict the distribution and fate of organic and inorganic chemicals in the environment.

Students will also gain an appreciation of state-of-the-science environmental chemistry research.