

The University of Western Ontario
Department of Chemistry

Chem 9522A Course Outline (Winter 2022)

1. Course Information

Course Name: Chemistry 9522A – Analytical Separations

Lectures: Thursdays, from 5:30 pm to 7:15 pm (1st class on January 13th)

Location: ChB 115

2. Instructor

Prof. Ken Yeung

Office: NCB 259 and MSA 0201

E-mail: kyeung@uwo.ca

3. Course Description

This course deals with the fundamental principles of gas and liquid chromatography and their applications as analytical tools, particularly in biological sciences. Tentative topics covered in this course include: a review on the operating modes of chromatography, the roles of stationary and mobile phases, thermodynamics of phase distribution, and the rate model of band broadening, latest research development in analytical separations.

Upon successful completion of this course, the student will be able to: identify the role and potential effects of each chromatographic experimental parameter when provided with a set of conditions; critically assess the suitability of chromatography in addressing a research question; effectively contribute and receive ideas in short group discussion; and represent the group in sharing information with the class for further discussion.

4. Course Materials

There will be no official textbooks. Students will be provided with reading materials including notes, journal articles and book chapters throughout the course.

5. Evaluation

Participation	30%
Presentation	40%
Open-book Exam	30%

Lectures will be delivered in a blended format where students will discuss and articulate in class the reading materials preassigned to them. A peer-reviewed evaluation system will be used for the participation grades. For this reason, you must not miss more than two classes, excused or not, to receive a passing grade in this course.

Each student will prepare and present a 20-minute presentation on a current development research topic in analytical separations. Evaluation will be done by both the instructor (50%) and all students attending the presentations (50%).

An open-book final examination will probe the understanding and application of concepts covered in lectures and presentations. Students may be asked to contribute questions on the topic chosen for their presentations.

Missed course attendance or exam. If you are unable to meet a course requirement due to illness or other serious circumstances, you must contact your instructor within 48 hours after you are able to resume academic duties.

Once your absences have been excused, an alternate date for *presentation* or *final exam* will be arranged.

No make-up evaluation will be provided for the *participation* component of the course, as it is impossible to do so. If the absence is excused, missed participation marks will be reweighted toward the *final exam*.

6. Statement on Academic Offences

Notes on Academic Honesty:

Scholastic offences are taken seriously, and students are directed to read the appropriate policy, specifically, the definition of what constitutes a Scholastic Offence, at the following Website: www.uwo.ca/univsec/pdf/academic_policies/appeals/scholastic_discipline_grad.pdf

All required papers may be subject to submission for textual similarity review to the commercial plagiarism-detection software under license to the University for the detection of plagiarism. All papers submitted for such checking will be included as source documents in the reference database for the purpose of detecting plagiarism of papers subsequently submitted to the system. Use of the service is subject to the licensing agreement, currently between The University of Western Ontario and Turnitin.com (<http://www.turnitin.com>).

Health and Wellness

As part of a successful graduate student experience at Western, we encourage students to make their health and wellness a priority. Western provides several on campus health-related services to help you achieve optimum health and engage in healthy living while pursuing your graduate degree. For example, to support physical activity, all students, as part of their registration, receive membership in Western's Campus Recreation Centre.

Numerous cultural events are offered throughout the year. For example, please check out the Faculty of Music web page <http://www.music.uwo.ca/>, and our own McIntosh Gallery <http://www.mcintoshgallery.ca/>. Information regarding health- and wellness-related services available to students may be found at <http://www.health.uwo.ca/>. Students seeking help regarding mental health concerns are advised to speak to someone they feel comfortable confiding in, such as their faculty supervisor, their program director (graduate chair), or other relevant administrators in their unit. Campus mental health resources may be found at http://www.health.uwo.ca/mental_health/resources.html.