

CHEM 3823 (Fall 2014-2015)

ANALYTICAL CHEMISTRY 2: Instrumental Methods

INSTRUCTOR	Dr. Vlad Zamlynny (office: ELL318)
LECTURE	ELL 320 (Slot 1, MWF 8:30-9:30 am)
LAB	ELL 302 (Slot 28, W 1:30-4:30 pm)
TEXT	Skoog, West, Holler, Crouch Fundamentals of Analytical Chemistry 9th Ed.
PREREQUISITE COURSE:	CHEM 2813 with a grade of C- or better (or the permission of the Department)

COURSE OUTLINE

CHEM 3823 is a second course in analytical chemistry that is taken during the third year of a typical Chemistry Major program. This course teaches the theory and application of modern, instrumental analytical techniques. Such topics as: (i) introduction to chemical instrumentation; (ii) atomic, and molecular spectrometry (both optical and mass methods); (iii) gas and liquid chromatography are included in this course. The knowledge gained in lectures will be applied during laboratory practicum to acquire useful skills necessary for work with such modern laboratory equipment as Atomic Emission, Atomic Absorption, Ultraviolet-Visible and Infrared spectrometers, fluorometers, Gas-Liquid and High-Performance Liquid Chromatographers. The lab section of the course includes a field trip to the Institute for Marine Biosciences, one of the most prominent research facilities in Atlantic Canada.

Students will extensively use computers during their course work, and are expected to prepare all the laboratory reports as computer-generated print-outs. The lab reports will be typically due in a week from completion of an experiment and the penalty for late reports will be a deduction of 20 % of the grade assigned for a lab for every extra day (*i.e.* the grade of zero will be automatically assigned if the report is not turned in within 5 days following the due date). The only exceptions from this rule will be delays due to illness, serious family reasons or special events promoted by Acadia University. In all instances a note from a reliable source verifying the cause of absence must be provided promptly.

The progress of students in CHEM 3823 will be evaluated based on performance in (optional) on-line assignments, two 50 min in-class written mid-term tests, a 3 hour written final exam and 9 laboratory reports.

Note that the final grade will be assigned only if the passing grade (i.e. >50%) for the laboratory portion of the course is received.

The final grade (100%) will be calculated according to the following schedule*:

Final exam	(Date: TBA)	45 %	50*%
Mid-term tests	(Tentative Dates: Oct 3, Nov 14)	32% = 2 * 16 %	32*%
Laboratory practicum		18 % = 9 * 2 %	18*%
Assignments (total)		5 %	0*%

If students chose to do ungraded homework assignments (see Option3 below), the 5% assignment grade will be added to their final exam (*i.e.* each exam question will be worth extra 10% weight: $5/50 * 100\% = 10\%$).

They will be similar in many aspects to the (graded) exam questions. If needed, help will be available after lab. and during regular office hours.

Textbook/assignment options:

- **Option A**
Purchased from Acadia Bookstore {~\$230+tax}
New 9th Edition Textbook + OWL2 on-line assignments bundle
[45% final + 5% assignments]
ISBN:9781285716435: Skoog: BNDL: Fundamentals of Analytical Chemistry.
- **Option B**
Purchased on-line {~\$140+tax}
e-book + OWL2 on-line assignments
[45% final + 5% assignments]
ISBN:9781285190235:IAC (Instant Access Code) OWL2: 24 months.

Option B Instructions:

Open www.nelsonbrain.com

Sign Up using your personal data and Acadia e-mail account.

Log In to your account just created.

Search for 9781285190235 (as an ISBN code)

Add to cart and purchase the product of this **Option B.**

- **Option C***
Can be Purchased from Acadia Bookstore {~\$175+tax}
Old 8th Edition Textbook (+ ungraded homework assignments)
ISBN:9780030355233
- **Option D***
Can be Purchased from Acadia Bookstore {~\$215+tax}
Can be Rented from Acadia Bookstore for one 3 month term {~\$150+tax}
Can be Rented in digital format from Acadia Bookstore for one 3 month term
{~\$75+tax}
New 9th Edition Textbook ONLY (i.e. without OWL2) (+ ungraded
homework assignments)
ISBN:978049558286

***[50% final + 0% assignments] (grading scheme for options C and D)**

NOTE1: e-book and OWL2 on line assignment access is for 2 years and can be extended by the instructor upon request if adequate reasoning is provided. Thus, the same e-book or textbook OWL2 bundle can be used in both CHEM2813 and CHEM3823 classes taken in normal, 2-year sequence.

NOTE2: prices are approximate. Bookstore will have exact numbers.

Students with disabilities that affect learning:

If you are a student with a documented disability who anticipates needing accommodations in this course, please inform me after you meet with Jill Davies or Kathy O'Rourke in Disability Access Services, in the Student Resource Centre, lower floor of the Old SUB (Old Student Union Building).

Their contact information is jill.davies@acadiu.ca 585-1127
or disability.access@acadiu.ca 585-1823.