

CHEM 335: Biophysical Chemistry - Fall 2023**General Information**

Instructor	Dr. Hala Youssef e-mail: hala.youssef@concordia.ca	Office hours: Tuesdays 17:00-18:00 (or by appointment) Location: SP 201.04
Lecture details	Tue 18:00-20:45	Location: CC 305
Lab details	Wednesday 18:30-22:30 Friday 13:30-17:30	Location: SP 320
Recommended Textbook	Biophysical Chemistry by D. Klostermeier and M. G. Rudolph (available in the Concordia bookstore and Concordia library)	

CHEM 335 *Biophysical Chemistry I* (3 credits)

Prerequisite: CHEM 234, 235, 271, 293.

This course examines the physical basis for the structures of biomolecules (energetics of protein folding), the organization and structures of bio-membranes and biologically relevant systems, and intermolecular interactions (e.g. ligand binding). Both fundamental theory and techniques used to characterize these physical properties are covered.

Lectures

Material will be divided into four sections:

- Section 1: Energetics of protein structure and folding (approximately 4-5 weeks)
- Section 2: Biophysical characterization techniques (approximately 4-5 weeks)
- Section 3: Membrane structure and function (approximately 1-2 weeks)
- Section 4: Ligand binding to macromolecules (approximately 1-2 weeks)

The primary interface for the course is the CHEM 335 Moodle page where you will find all lecture slides and lab materials. The lecture slides that will be provided will comprise mostly of figures and diagrams as you are expected to take your own notes. Lectures begin on September 5, 2023 and end on November 28, 2023.

Laboratory Information

CHEM 335 laboratories start the week of September 11, 2023. All students must attend the lab section for which they are registered. Labs will be performed on a rotation basis such that students perform one experiment every other week. The lab coordinator is Dr. Hai Tao Yan (haitao.yan@concordia.ca, office SP 201.06). All questions regarding labs should be addressed to him. The lab schedule and lab manual for the five experiments are available on Moodle.

Although experiments are performed with lab partners, you must submit your own, individual lab report for all experiments. Joint lab reports are not acceptable. Raw and processed data must be submitted 2 weeks after completion of the experiment, with the exception of Experiment 5. There will be one long report (for Experiments 1-4) due towards the end of term. The report for Experiment 5 will also be due at the end of term. More information, including due dates, is posted on the lab Moodle page. All pre-labs and reports must be submitted on Moodle. We will not accept reports in person or by email. The lab manual for the five experiments is posted on the CHEM

335 Moodle website. You do not need to purchase a lab manual but should print out the necessary pages.

To pass the course, students must pass the lab/tutorial component with a grade of 60% or higher. If your grade is lower than 60%, your final grade will be R which means you have to repeat the course.

A lab exemption is only given when a course is repeated within 2 years and the previous course grade was F or higher. There is no guarantee for a lab exemption if the lecture is full unless the student is registered in the course already.

Extraordinary Circumstances

In the event of extraordinary circumstances and pursuant to the Academic Regulations, the University may modify the delivery, content, structure, forum, location and/or evaluation scheme. In the event of such extraordinary circumstances, students will be informed of the changes.

Behaviour

All individuals participating in courses are expected to be professional and constructive throughout the course, including in their communications. Concordia students are subject to the Code of Rights and Responsibilities which applies both when students are physically and virtually engaged in any University activity, including classes, seminars, meetings, etc. Students engaged in University activities must respect this Code when engaging with any members of the Concordia community, including faculty, staff, and students, whether such interactions are verbal or in writing, face to face or online/virtual. Failing to comply with the Code may result in charges and sanctions, as outlined in the Code.

CHEM 101: The Academic Code of Conduct: Ethical Use of Information Sources

MANDATORY QUIZ AND SEMINAR

As part of your CHEM course, you are **required** to i) attend a Chemistry and Biochemistry Departmental Seminar on the academic conduct code and the appropriate use of information sources and ii) pass the online quiz associated with this seminar (the passing grade for the quiz is 100%). (**Note:** this quiz is graded by the Department of Chemistry and Biochemistry, and you do not have access to it until after you have attended the seminar. Therefore, any other quiz you may have taken on the academic code of conduct does not count toward the CHEM 101 requirement.) The aim of this seminar and quiz is to clarify the academic conduct code in terms of which practices will be considered unacceptable with regards to work submitted for grading in your CHEM course. **You are only exempt from repeating the seminar and the quiz if you have done both in Fall 2018 or more recently,*** otherwise you are required to repeat both this term. This short seminar (1 hour) will be held at the following times (note that you will not be given credit if you join too late and/or leave too early):

Date (Fall 2023)	Time	Mode	Registration link
Sept. 20 (Wednesday)	21:00-22:00	Zoom	https://concordia-ca.zoom.us/join/9tZUlfu2rqzlgG9lGsSfy2B9Hr54s9dL9fHGA
Sept. 21 (Thursday)	21:00-22:00	Zoom	https://concordia-ca.zoom.us/join/tZlkcOuprD4tEtErehDAif79hLVheyKi9Epg
Sept. 25 (Monday)	21:00-22:00	Zoom	https://concordia-ca.zoom.us/join/tZAtdvqrTgqG9BFMu6YZhMcqBSxZ6Z0KfMs

As space for each of the Zoom seminars is limited, please **register early** for your preferred slot (copy the corresponding link above into your browser, and make sure you do not introduce a space: it is “concordia-ca”). Then do not forget to **attend** that seminar slot on the date above!

We will take attendance at the Zoom seminar.

If you do not complete this course requirement, your final grade for the course may be lowered by one full letter grade with an incomplete (INC) notation until such time as this requirement is completed. Please refer to the undergraduate calendar (section 16.3.5) for details on removal of an incomplete notation.

* You are exempt if you can locate your ID in the pdf file located on the Departmental web site (<http://www.concordia.ca/content/dam/artsci/chemistry/docs/Compliance-list.pdf>) and if there is no entry in the “quiz” column for you.

PLAGIARISM AND OTHER FORMS OF ACADEMIC DISHONESTY

The Academic Code of Conduct can be found in section 17.10 of the academic calendar (<http://www.concordia.ca/academics/undergraduate/calendar/current/17-10.html>). Any form of unauthorized collaboration, cheating, copying or plagiarism found in this course will be reported and the appropriate sanctions applied. The mandatory seminar is a clear and fair opportunity to learn what our faculty regards as academic misconduct. Failure to take part in this learning opportunity and thus ignorance of these regulations is no excuse and will not result in a reduced sanction in any case where academic misconduct is observed.

Plagiarism

The most common offense under the Academic Code of Conduct is plagiarism, which the Code defines as “the presentation of the work of another person as one’s own or without proper acknowledgement.” This includes material copied word for word from books, journals, Internet sites, professor’s course notes, etc. It refers to material that is paraphrased but closely resembles the original source. It also includes for example the work of a fellow student, an answer on a quiz, data for a lab report, a paper or assignment completed by another student. It might be a paper purchased from any source. Plagiarism does not refer to words alone –it can refer to copying images, graphs, tables, and ideas. “Presentation” is not limited to written work. It includes oral presentations, computer assignments and artistic works. Finally, if you translate the work of another person into any other language and do not cite the source, this is also plagiarism.

In Simple Words: Do not copy, paraphrase, or translate anything from anywhere without saying where you obtained it.

Intellectual Property

Content belonging to instructors shared in online courses, including, but not limited to, online lectures, course notes, and video recordings of classes remain the intellectual property of the faculty member. It may not be distributed, published or broadcast, in whole or in part, without the express permission of the faculty member. Students are also forbidden to use their own means of recording any elements of an online class or lecture without express permission of the instructor. Any unauthorized sharing of course content may constitute a breach of the Academic Code of Conduct and/or the Code of Rights and Responsibilities. As specified in the Policy on Intellectual Property, the University does not claim any ownership of or interest in any student IP. All university members retain copyright over their work.

Grading

The final grade is based on the following marking scheme:

Midterm exam	25%
Final exam	45%
In-class problem solving assignment	10%
Lab reports	20%

There will be no make-up midterm exam. If a student is absent from the midterm examination and/or the problem solving session, he/she must produce a written excuse appropriately signed (i.e. by a doctor or an employer) no later than one week after the missed session or submit the short-term absence form. In the case of a missed assignment, the weight will go towards the midterm, and in the case of a missed midterm exam, the weight will go towards the final exam. If there is no valid excuse, the student will receive a mark of zero for the work.

The final exam will be cumulative and will be scheduled by the Examinations Office at the end of term. If you cannot write the final exam, you must make arrangements with the Examination office to write a deferred exam.

Grade	%	Grade	%	Grade	%	Grade	%	Grade	%
A+:	90-100	B+:	77-80	C+:	67-70	D+:	57-60	F:	<50
A:	85-90	B:	73-77	C:	63-67	D:	53-57		<35% on
A-:	80-85	B-:	70-73	C-:	60-63	D-:	50-53	R:	theory or failed lab

Problem Solving Assignment

The aim is to develop your problem-solving skills in biophysical chemistry. There will be one problem solving session during the semester. You will be divided into groups and given a problem on which to work as a group. You will be required to submit a joint answer to the problem by the end of the period. The date of the assignment will be announced on Moodle.

Accessibility

The instructor will strive to make learning experience as accessible and inclusive as possible. If you have accessibility needs that require academic accommodations, please meet with an advisor from the Access Centre for Students with Disabilities (ACSD) as soon as possible to set up an accommodation plan. I welcome meeting with all students to discuss their accessibility needs. concordia.ca/students/accessibility

List of Student Services

1. Access Centre for Students with Disabilities: concordia.ca/students/accessibility
2. Student Success Centre: concordia.ca/students/success
3. Counselling and Psychological Services: concordia.ca/students/counselling-life-skills
4. Concordia Library Citation and Style Guides: <https://library.concordia.ca/help/citing>
5. Health Services: concordia.ca/students/health
6. Financial Aid and Awards: concordia.ca/offices/faao
7. Academic Integrity: concordia.ca/students/academic-integrity

8. Dean of Students Office: concordia.ca/offices/dean-students
9. International Students Office: concordia.ca/students/international
10. Student Hub: concordia.ca/students
11. Sexual Assault Resource Centre: concordia.ca/students/sexual-assault
12. Concordia Student Union resources:
 - a. HOJO (Off Campus Housing and Job Bank): csu.qc.ca/services/housing-and-job-bank-hojo/
 - b. CSU Advocacy Centre: csu.qc.ca/services/advocacy-centre/
13. Aboriginal Student Resource Centre: concordia.ca/students/aboriginal