

Current Concepts in Protein Chemistry

Chem396/Chem465

Dr. M. A. Ballicora, Dr. Dali Liu, and Dr. Ken Olsen

Fall 2018: Tuesdays and Thursdays 4:15-5:30pm FH-105

Course Description

The major themes in this course will be the relationship of protein structure to function and control of biochemical activities. We will examine several currently important areas of protein chemistry research. The structure of the course will involve introductory lectures by the instructors for each area followed by student presentations and discussion. A major goal of the course is to teach students to communicate scientific information in oral presentations effectively. One portion of the course will involve molecular visualization of protein structure. The instructor will present the basic concepts in the lecture section. The students will use their own computer to produce protein models of high quality. A successful outcome of this course is a student who will be better versed in searching literature, interpreting it, and presenting scientific data of current importance in protein chemistry.

Presentations

Each student will present three times during the semester. Each presentation will be approximately 12 minutes long, followed by questions and answers (5 min). The speakers will provide the instructors with the abstracts of their main reference, as they will indicate. The students should submit the title and the full reference to their paper they want to present at least one week before the round of presentations start. Note: that in case of two or more people picking the same paper, the person with the earliest submission will present it and the others will need to find a new paper. Since you will need to have found two papers on the topic (see below), you should be ready to pick another one of your papers if necessary. The emphasis of the selected papers must be **molecular structure and function** rather than cells and organisms. The student should give a handout and a copy of the main literature reference for each presentation to the instructor during the class period, just before the presentation.

The day of your presentation you should provide an electronic copy of your presentation for posting on the class website and have the slides installed 5 minutes before class start. Alternatively, you could submit an electronic copy the day before (no later than 8 pm). Please talk with the instructor about what format you should submit. Presentations will be graded on **content, knowledge, and quality of the presentation** (being on time is part of the presentation skills). The instructor will provide advice on how to present scientific seminars.

Library Assignments

All of the reading for this course will be from the original literature. Each student will submit a list of two recent (2013-2018) papers on each topic and summaries prepared by the student. Your references should start with the *authors' names, the title of the paper, the publication year, the journal, the volume number and the first and last page numbers*. You should summarize the major conclusions of the paper citing at least one piece of evidence to support each conclusion. The students should write the summaries in **their own words**. The published abstract of the paper should be attached or added to the summary. There will be a deduction if the summaries are late. Presenters can submit a summary of their presentation paper.

Discussion

At the end of each session of presentations, there will be time to discuss the subject. Your comments and questions will normally be based on how the papers you read are related to the papers presented that day.

Grading

Presentation 1	15%
Presentation 2	15%
Presentation 3	15%
Mid Term examination 1	10%
Mid Term examination 2	10%
Participation	5%
Assignments	10%
Final	20%

No make-up examinations will be given for the midterms. In the event of a missed examination, the score on the final examination, corrected by the ratio of the class medians on the two examinations, will determine the missed examination score.

Final Exam

The University sets the schedule for all final exams. The final will be held on:

Tuesday 4:15 pm, December 11, 2018 (FH-105)

You will have exactly 2 hours to complete the exam. Additional time will not be granted, even if you arrive late. There will be no make-up final exams given under any circumstance, and the exam will not be given early, either. Instructors may not reschedule final exams for a class for another day and/or time during the final exam period. There can be no divergence from the posted schedule of dates for final exams. Individual students who have four (4) final examinations scheduled for the same date may request to have one of those exams rescheduled. If a student reports having four final examinations scheduled for the same date, students should be directed to e-mail a petition to Lester Manzano, Assistant Dean for Student Academic Affairs, CAS Dean's Office (lmanzan@luc.edu).

Course grade

The cumulative score of the course (after rounding) will be translated to a letter grade according to the following table.

Letter	Range
A	92-100
A-	86-91
B+	81-85
B	76-80

B-	71-75
C+	66-70
C	61-65
C-	57-60
D+	53-56
D	47-52
F	46 and below

Students with Disabilities

If you have any special needs, please let the instructor know in the first two week of classes. The university provides services for students with disabilities. Any student who would like to use any of these university services should contact the *Services for Students with Disabilities (SSWD)*, Sullivan Center (773) 508-3700. Further information is available at <http://www.luc.edu/sswd/>.

Academic Integrity

All students in this course are expected to have read and to abide by the demanding standard of personal honesty, drafted by the College of Arts & Sciences, which can be viewed here:

<http://www.luc.edu/cas/advising/academicintegritystatement/>

A basic mission of a university is to search for and to communicate the truth, as it is honestly perceived. A genuine learning community cannot exist unless this demanding standard is a fundamental tenet of the intellectual life of the community. Students of Loyola University Chicago are expected to know, to respect, and to practice this standard of personal honesty.

Academic dishonesty can take several forms, including, but not limited to cheating, plagiarism, copying another student's work, and submitting false documents.

Any instance of dishonesty (including those detailed on the website provided above or in this syllabus) will be reported to the Chair of The Department of Chemistry & Biochemistry who will decide what the next steps may be. Dishonest behavior such as any form of cheating may cause to fail (grade = 0 or "F") an assignment, examination, or the course, depending the severity of the case. That grade assigned because of cheating cannot be "dropped".

Expected behavior

Cell phones or any other distracting devices are not allowed in class, particularly when other students are presenting. Please turn them off or this may cause a point deduction in the participation. In the exams, students are not allowed to use any sort of electronic device (cell phones, iPods, radios, calculators etc.) unless they are specifically authorized by the instructor.

Loyola University Absence Policy for Students in Co-Curricular Activities

Students missing classes while representing Loyola University Chicago in an official capacity (e.g. intercollegiate athletics, debate team, model government organization) shall be allowed by the faculty member of record to make up any assignments and to receive notes or other written information

distributed in the missed classes. Students should discuss with faculty the potential consequences of missing lectures and the ways in which they can be remedied. Students must provide their instructors with proper documentation (develop standard form on web) describing the reason for and date of the absence. This documentation must be signed by an appropriate faculty or staff member, and it must be provided as far in advance of the absence as possible. It is the responsibility of the student to make up any assignments. If the student misses an examination, the instructor is required to give the student the opportunity to take the examination at another time
(<https://www.luc.edu/athleteadvising/attendance.shtml>)

Website

Students are supposed to check **sakai.luc.edu** regularly for updated information as well as the Loyola email account.

Instructors

Dr. Miguel A. Ballicora (FH-405/125 e-mail: mballic@luc.edu)

Office hours: by appointment

Dr. Dali Liu (FH-422 e-mail: dliu@luc.edu)

Office hours: by appointment

Dr. Ken Olsen (FH-409 e-mail: kolsen@luc.edu)

Office hours: by appointment

CHEM 396/465, Tentative Schedule

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Tue	8/28	Basic Kinetics (Topic 1)	1
Thu	8/30	Basic Kinetics (Topic 1)	2
Tue	9/4	How to present scientific data	3
Thu	9/6	Topic 2	4
Tue	9/11	Topic 2	5
Thu	9/13	Topic 3	6
Tue	9/18	Topic 3	7
Thu	9/20	Presentations (1)	8
Tue	9/25	Presentations (2)	9
Thu	9/27	Presentations (2)	10
Tue	10/2	Presentations (2)	11
Thu	10/4	Midterm Exam #1	12
Tue	10/9	FALL BREAK	-
Thu	10/11	Presentations (2)	13
Tue	10/16	Presentations (3)	14
Thu	10/18	Topic 4	15
Tue	10/23	Presentations (3)	16
Thu	10/25	Topic 4	17
Tue	10/30	Presentations (3)	18
Thu	11/1	Presentations (3)	19
Tue	11/6	Presentations (3)	20
Thu	11/8	Midterm Exam #2	21
Tue	11/13	Topic 5	22
Thu	11/15	Topic 5	23
Tue	11/20	Presentations (4)	24
Thu	11/22	Thanksgiving BREAK	-
Tue	11/27	Presentations (4)	25
Thu	11/29	Presentations (4)	26
Tue	12/4	Presentations (5)	27
Thu	12/6	Presentations (5)	28
Tue	12/11	FINAL EXAM	