Instructor: *Dr. Polina Pine*

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Office Location: FH-403

Office Hours: Tu/F 12:30-1:30 pm

Lectures: MWF 11:30-12:20 **Life Science Building-142**

Discussions: Tu 10:00-10:50am Dumbach Hall 123

Th 11:30-12:20 Flanner Hall 105

Best (the fastest) way to contact Dr. Pine is in person during the office hours, after the lecture or before/after the Discussion Session. If email is sent after 5pm during business days it may be answered the next day or within 24 hours

Course Overview

Course surveys bio-molecules and processes found in living organisms. Content includes structures of amino acids, lipids, and sugars and corresponding macromolecular structures, i.e., proteins, membranes, and polysaccharides as related to their biological functions. Topics discussed in classes include: kinetics, mechanism of enzymatic reactions and the central metabolic pathways. Students who successfully complete this course will be able to do the following, at an acceptable level (including but not limited to): Identify and describe biomolecules including carbohydrates, amino acids/proteins and lipids/lipid bilayers. Choose appropriate buffer system; calculate the ratios of weak acid to conjugate base; determine the pKa from the associated titration curve; Show the major form of an amino acid/polypeptide including the zwitterion, at different pH values; track the fate of an oxygen molecule from inhalation in the lungs, track the fate of a carbon dioxide molecule produced from the TCA cycle, identify the kinetics of an enzymatic process; identify the substrates, enzymes and products in both catabolic and anabolic metabolism; track the fate of pyruvate and acetyl-CoA through the TCA cycle; track the fate and path of high-energy electrons through the electron transport complexes/respiratory chain, in conjunction with the Chemiosmotic principle of proton translocation utilized in oxidative phosphorylation to synthesize ATP.

Textbook and material:

1. **Recommended textbook;** Biochemistry, Campbell/ Farrell/ McDougal, 9th ed. (8th ed.), Brooks-Cole, Cengage Learning, 2018 (e-text is free through the *Cengage* OWLv2 see bellow)
2. **Required for this class:** online access code for *Cengage* OWLv2 course system. DO NOT buy, pay or purchase any code. It is provided to students enrolled in the section CHEM 361-001/461-002 free of charge during the first week of classes! To enroll follow the link that will be sent to you through SAKAI by Dr. Pine
3. The e-text, solution manual and flash cards of the above text are included free of charge in the access code and accessible in the Study Tool of *Cengage* OWLv2 (the link will be sent by Dr. Pine)
4. *Supplementary textbook for the class is Pratt, Cornely, Essential Biochemistry*

5. **The class lectures and discussions will be the most critical source of information for this course.**

Learning procedure:

- **No Taking Photos**
- **No taking Videos**
- **No Audio recording**
- Only positive, respectful behavior is tolerated in this class. Please see **Harassment (Bias)** section at the end of the Syllabus.
- Using the computers, cell phones and tablets may be allowed only by a prior agreement by the instructor. Must be operated on silent mode during lecture and discussion.
- **It is student's responsibility to follow the announcements, and all policies of the class.**
- Make-up assignments, exams, quizzes are not available for this course.
- Classes will be given as a combination of the following formats: board, multimedia, use of models, discussions, independent and facilitated case studies and problem solving.
- Dr. Pine's lecture slides if posted on Sakai may be doubling the material in the class or covering material that expected to be covered by students independently. Follow the announcements in class; ask Dr. Pine during the class, and after the lecture if anything remains unclear. Communication is important.
- Problems from the textbook if assigned will be related to the first text given above.
- The material covered in class will combine information form the textbook (not necessary complete chapter), recent scientific publications and supplementary texts. For this reason it is essential not to miss classes.
- The study guides in form of problems kits/case studies (discussion handouts) if assigned will be posted on Sakai, students must print these handouts, bring all of them to **every class** and follow all directions given in the handout. More details will be given in the Discussion.
- **Please note that materials from this course cannot be shared outside the course without the instructor's written permission (as reminded by the CAS Dean's Office memo, Jan. 8. 2016).**

Make-up assignments are not available for this course. Contact a classmate for notes, sections/topics covered if you miss a class. **For success in this course, it is important to review your notes, read the textbook and look over the slides/material prior and after class, work on homework problems every day.** DO NOT FALL BEHIND. Attendance is not taken for credit but any absence or any not following the policies or announcements given in class may result in poor performance in class.

Due to the fast pace of the semester announcements given in class may not be necessarily doubled/tripled in any electronic form (email, Sakai etc.) It is student's responsibility to follow the announcements, and all policies or changes of the class.

Grading policy:

There are NO EXTRA ASSIGNMENTS NO MAKE-UP EXAMS OR QUIZZES.

Under no circumstances may an exam/quiz be taken at a time and date other than that assigned.

The midterm and final letter grades will be given based on the points scored in the course only. Final grade will be determined from one of the following options whichever is higher:

Option1:

OWLv2 assignments	10%
Exam 1	20%
Exam 2	20%
Exam 3	20%
Final Exam	30%
Total	100%

Option2 (Lower unit-exam score is a drop):

OWLv2 assignments	10%
Unit Exam	20%
Unit Exam	20%
Final Exam	50%
Total	100%

Every unit exams: 50 minutes, the dates are **September 25, October 16, and November 13** exact dates are given in the tentative schedule posted on Sakai. **If you miss one unit exam for any reason, the missed exam will be dropped and Option 2 will automatically be used to determine your grade.** A second missed unit exam will result in a score of zero for the missed exam. There are NO EXTRA ASSIGNMENTS NO MAKE-UP EXAMS OR QUIZZES. Under no circumstances may an exam/quiz be taken at a time and date other than that assigned.

Final exam has to be taken during the scheduled time only!

Final exam: two hours - MANDATORY. The final exam must be taken ONLY on the date scheduled or a grade of F will automatically result. Cumulative final exam is two hours duration. **Final exam Monday December 11th 1:00-3:00 pm**. For exact day and time check here: http://www.luc.edu/academics/schedules/spring/exam_schedule.shtml)

All exams will be graded within seven business days. Students must pick up their score reports or exams (if available) within one week after the scores are published during the times announced by the instructor only. Issues with graded exams must be submitted within seven calendar days of being returned, otherwise scores will be considered final.

Approximate grading scale

A 100-93
A- 92-85
B+ 80-84
B 75 -79
B- 70-74
C+ 65-69
C 60-64
C- 55-59
D+ 50-54

D 40-49
F less than 40

Only mistakes such as tallying up points by the lecturer are eligible for regarding.

The Exams procedure

Phones, headphones, tablets and any electronic devices **are not permitted**. Come to the exam with **three** items: working **HB-2 pencil**(s)/pens, calculator, and your **Loyola ID** visible on your desk to be checked during the exam.

All purses, bags, jackets, etc must be left at front of the room. Once the exam is distributed, if you exit the room for any reason before time is up, your exam is complete and will be collected.

Instructor Privileges

Instructor reserves the right to make changes and adjustments to this syllabus as necessary, including, but not limited to the grading policy and course schedule.

Course Topics:

Chapters from the textbook to be covered: 2, 3,4,5,6,7,8,16,15,17,19,20,18,21,23, 24 (if time permits). Not all textbook sections will be fully covered or covered in the order the textbook dictates, so focus first on the material that is directly covered in lecture and assigned for homework and discussion handouts) *See Tentative Lecture Schedule posted on Sakai under Recourses. Students are expected to read the textbook before and after the lecture.*

Our actual pace and the topics may vary from the schedule

Academic Integrity

Trust and integrity are important qualities in students. All submitted work must represent your own work and your own work only. Academic dishonesty of any kind, such as plagiarism and cheat sheets on exams, will not be tolerated. Any student caught cheating on an assignment in any way will receive a "zero" for that assignment and be reported to Chairperson of the Chemistry Department and the Dean School of Art and Science. For further information regarding the Academic Integrity policy and disciplinary procedures, refer to the Undergraduate Studies Catalog: http://www.luc.edu/academics/catalog/undergrad/reg_academicintegrity.shtml.

Disability Accommodations

At times, students with disabilities may wish to avail themselves of the University's ancillary services. Students requiring accommodations at the University need to contact the Coordinator of Services for Students with Disabilities, then provide documents and schedule arrangements with the instructor at the beginning of the term. Information is available at: http://www.luc.edu/sswd/

Tutoring Center

The CTAE offers several different programs each semester, including class-specific tutor-led small groups, Academic Coaching groups dedicated to general academic support, and a Study Buddy Directory for students seeking out more independent collaboration with other students in the same class or subject area. For more information refer to http://www.luc.edu/tutoring/Small_Group_Info.shtml

Harassment (Bias Reporting)

It is unacceptable and a violation of university policy to harass, discriminate against or abuse any person because of his or her race, color, national origin, gender, sexual orientation, disability, religion, age or any other characteristic protected by applicable law. Such behavior threatens to destroy the environment of tolerance and mutual respect that must prevail for this university to fulfill its educational and health care mission. For this reason, every incident of harassment, discrimination or abuse undermines the aspirations and attacks the ideals of our community. The university qualifies these incidents as incidents of bias. In order to uphold our mission of being Chicago's Jesuit Catholic University-- a diverse community seeking God in all things and working to expand knowledge in the service of humanity through learning, justice and faith, any incident(s) of bias must be reported and appropriately addressed. Therefore, the Bias Response (BR) Team was created to assist members of the Loyola University Chicago community in bringing incidents of bias to the attention of the university. If you believe you are subject to such bias, you should notify the Bias Response Team at this link: http://webapps.luc.edu/biasreporting

A link to the official Loyola calendar can be found here: http://luc.edu/academics/schedules/index.shtml