

General Biochemistry 350 Spring Term 2016

Instructors	Email	Office	Phone
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Class Hours:

- Monday-Tuesday-Wednesday-Friday: 4:00-4:50 pm
- Room: LinC 302

Office Hours:

Dr. Nyarko: 11:00 am-12:30 pm Tuesday and Wednesday (when lecturing), or by appointment.

Dr. Perez: 12:00 pm-1:00 pm Monday, Wednesday and Friday (when lecturing), or by appointment.

Course Prerequisite:

CH 332

Textbook:

Biochemistry Free and Easy by Kevin Ahern and Indira Rajagopal -
<http://biochem.science.oregonstate.edu/biochemistry-free-and-easy> Fourth Edition

Lecture Material:

For all lecturers: All slides/transparencies presented in class will be available as files that can be downloaded and printed from Canvas. Many of these files are unavoidably large and therefore will take some time to download/print-out.

For your benefit, it is important that you pre-read the assigned sections (see Class Schedule) of the text before attending lectures; be prepared to ask questions and participate in discussions.

OSU Canvas will also contain the following useful information:

- Lecture topics/syllabus
- Announcements—especially regarding inclement weather, class cancellations, postponements, etc.
- Links to supplemental lecture material

Examination Info

Exam dates/times are shown on the class Schedule page. All exams will be given in the regular classroom LinC 302. Exams 1, 2, and 3 will be at the regular class time (see the Schedule page). The final exam time and date is noted on the Schedule page.

Evaluation:

Total points: 500 total points.

- a. Three non-cumulative 100-point midterm examinations (April 15th, May 3rd, and May 18th, 2016)
- b. Quizzes will constitute the equivalent of 10% of your grade (i.e. 50 points). There will be a total of 8 quizzes given throughout the course, but only 5 will count (i.e. only your top 5 quiz grades). When quizzes are given, they will be administered during the last ten minutes of the last lecture period of the week.
- c. A 150-point cumulative final exam; room to be announced

The final exam will cover topics from the whole term, with emphasis on new material not covered in the mid-term exams.

Learner Outcomes

The intention of the course is for students to:

- Acquire the technical language used to communicate biochemistry information
- Gain familiarity with basic biochemistry principles, including metabolic pathways, molecule names, molecular structures (where noted), enzymes, control mechanisms, and terms used to describe categories of molecules
- Perform analyses and basic calculations relating to solutions, energy, and catalysis and gain understanding of how they relate nutritional and physically to the human body
- Communicate (through writing) key concepts of biochemistry
- Understand and apply elementary concepts of biochemistry to relevant, specific problems.

Learner Expectations

- Advance preparations, including reading notes before lectures are given.
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- Avoid last minute studying
- Questions to answer concepts/processes that the student does not understand BEFORE it is too late.
- Recognition that an understanding of a complex topic like biochemistry requires considerable background prior to the class, a considerable amount of information to be acquired in the class, and sufficient time and effort to put these together to master the material

Exam policies

Makeup exams will be given only for absences excused by the instructor in advance of the exam. Excused absences will not be given for routine illness (colds, stomach aches), or other common ailments. Excused absences will not be given after the absence has occurred, except under unusual circumstances. Regrades of exams will be performed when there is an error and the student requests it. All requests for regrading must be made in writing or e-mail within three week days of the day the exam is returned to the class as a whole. After that period of time, grades will be fixed and will not be changed. Regrade requests must clearly explain why the original grading was either incorrect or misunderstood. Illegible, misspelled, or unintelligible written requests will automatically be denied. The following situations are NOT grounds for missing an exam:

- 1. You misread the date of the exam on the syllabus.
- 2. You went to the wrong room.

Students with airline tickets sometimes want an excused absence. This too will not be given routinely. We recognize, however, that there are circumstances where a trip is sometimes necessary. If that is the case with you, you must report it at the beginning of the term and the instructor will decide if the reason justifies other arrangements.

Academic Honesty

Measures will be implemented to discourage cheating. Before exams, seating may be arranged, or rearranged, at random and according to the proctor's discretion; you may be asked to move to a different seat from the one you chose before the exam begins. No hats may be worn during exams. The use of cell phones, PDAs or other electronic devices, other than calculators, are strictly forbidden during exams. Students may be monitored by video surveillance during exams. Additionally, you may not leave the exam room to go to the restroom or any other reason without expressed permission of

the proctor. **You will be required to show your valid OSU student identification card when turning in your exam.** There may be different versions of each exam. We are sorry that such procedures must be put into effect, but we also feel these measures are necessary in order to encourage academic honesty.

University Policies

Please note: "Students with documented disabilities who may need accommodations, who have any emergency medical information the instructor should know, or who need special arrangements in the event of evacuation, should make an appointment with the instructor as early as possible, no later than the first week of the term. In order to arrange alternative testing, the student should make the request at least one week in advance of the test. Students seeking accommodations should be registered with the Office of Services for Students with Disabilities. Students whose celebration of religious holidays conflicts with class responsibilities must notify the instructor of the course in the first week of the course to see if alternative arrangements can be made.

Oregon State University rules on civility and honesty can be found at:

<http://oregonstate.edu/admin/stucon/regs.html>

Cheating or plagiarism by students is subject to the disciplinary process outlined in the Student Conduct Regulations. Students are expected to be honest and ethical in their academic work. "Academic dishonesty" is defined as an intentional act of deception in one of the following areas:

- ◆ Cheating-use or attempted use of unauthorized materials, information or study aids
- ◆ Fabrication-falsification or invention of any information
- ◆ Assisting-helping another commit an act of academic dishonesty
- ◆ Tampering-altering or interfering with evaluation instruments and documents
- ◆ Plagiarism-representing the words or ideas of another person as one's own

Behaviors disruptive to the learning environment will not be tolerated and will be referred to the Office of Student Conduct for disciplinary action.

"The goal of Oregon State University is to provide students with the knowledge, skill and wisdom they need to contribute to society. Our rules are formulated to guarantee each student's freedom to learn and to protect the fundamental rights of others. People must treat each other with dignity and respect in order for scholarship to thrive. Behaviors that are disruptive to teaching and learning will not be tolerated, and will be referred to the Student Conduct Program for disciplinary action. Behaviors that create a hostile, offensive or intimidating environment based on gender, race, ethnicity, color, religion, age, disability, marital status or sexual orientation will be referred to the Affirmative Action Office."

BB 350 Class Schedule
Spring Term 2016
Elementary Biochemistry

	Date	Lecturer	Topic	<i>Text Reading Assignment</i>
Week 1	3/28/16	Nyarko	Introduction	Ch. 1 (10-23)
	3/29/16	Nyarko	Water/Biochemistry	Ch. 1 (10-23)
	3/30/16	Nyarko	Buffers	Ch. 1 (10-23)
	4/01/16	Nyarko	Amino Acids/Peptides	Ch. 3 (42-51)
Week 2	4/04/16	Nyarko	Proteins (3D)	Ch. 3 (42-51)
	4/05/16	Nyarko	Hemoglobin and Myoglobin	Ch. 3 (51-56)
	4/06/16	Nyarko	Protein Purification	Ch. 9 (212-224)
	4/08/16	Nyarko	Protein Purification II/ Enzymes	Ch. 4 (80-96)
Week 3	4/11/16	Nyarko	Enzymes	Ch. 4 (80-96)
	4/12/16	Nyarko	Enzyme Controls	Ch. 4 (96-100)
	4/13/16	Nyarko	Enzyme Controls	Ch. 4 (96-100)
	4/15/16	Exam 1		
Week 4	4/18/16	Nyarko	Membranes	Ch. 3 (71-79)
	4/19/16	Nyarko	Membranes	Ch. 3 (71-79)

	4/20/16	Nyarko	Nucleic Acids	Ch. 3 (59-64)
	4/22/16	Nyarko	DNA synthesis	Ch. 5 (101-116)
Week 5	4/25/16	Nyarko	DNA Synthesis II	Ch.5 (101-116)
	4/26/16	Nyarko	RNA Synthesis	Ch. 5 (117-132)
	4/27/16	Nyarko	RNA Synthesis	Ch. 5 (117-132)
	4/29/16	Pérez	Protein Synthesis	Ch. 5 (132-139)
Week 6	5/02/16	Pérez	Protein Synthesis	Ch. 5 (132-139)
	5/03/16	Exam 2		
	5/04/16	Pérez	Protein Synthesis /Biotechnology	Ch. 9 (224-227)
	5/06/16	Pérez	Biotechnology	Ch. 9 (224-227)
Week 7	5/09/16	Pérez	Viruses, Cancer, and Oncogenes/Immune System & Energy	Ch. 2 (24-32)
	5/10/16	Pérez	Carbohydrates	Ch. 3 (64-71)
	5/11/16	Pérez	Glycolysis	Ch. 5 (129-138)
	5/13/16	Pérez	Glycolysis II	Ch. 6 (144-150)
Week 8	5/16/16	Pérez	Carbohydrate Storage	Ch. 6, 7 (150-153) (173-181)
	5/17/16	Pérez	Carbohydrate Storage II	Ch. 6, 7 (150-153) (173-181)
	5/18/16	Pérez	Citric Acid Cycle	Ch. 6 (153-157)

	5/20/16	Exam 3		
Week 9	5/23/16	Pérez	Electron Transport/Oxidative Phosphorylation	Ch. 2 (32-35)
	5/24/16	Pérez	Lipid metabolism	Ch. 6 (157-171)
	5/25/16	Pérez	Lipid metabolism II	Ch. 6 (157-171)
	5/27/16	Pérez	Lipid metabolism III	Ch. 6 (157-171)
Week 10	5/30/16	Memorial Day		
	5/31/16	Pérez	Photosynthesis	Ch. 2, 7 (35-38) (181-184)
	6/01/16	Pérez	Nitrogen Metabolism	Ch. 7 (184-194)
	6/03/16	Pérez	Nitrogen Metabolism II	Ch. 7 (184-194)
		Comprehensive Final Exam		