

General Biochemistry 350 - Spring Term 2020

Instructors	Email	Office	Phone
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Teaching Assistant: Brittany Lasher

Office hours: TBD

Class meeting time and place: Tue-Wed-Thu- Fri: 8:00-8:50 a.m. via Zoom

Office Hours:

Dr. Karplus: 9:00-10:30 a.m. Thu, Fri (weeks 1-5) via Zoom, or by appointment.

Dr. Perez: 9:00-10:30 a.m. Thu, Fri (weeks 6-10) via Zoom, or by appointment.

Course Prerequisite: CH 332 (may be taken concurrently)

Textbook: (available free in iPad, PDF, Kindle versions)

Biochemistry Free and Easy 3.0 by Kevin Ahern and Indira Rajagopal

- Download at: <http://biochem.science.oregonstate.edu/biochemistry-free-and-easy>

Lecture Material:

OSU Canvas will also contain all course information, including:

- This syllabus and a course schedule
- Announcements
- Powerpoint slides, outlines and highlights for class sessions and links to any supplementary material
- Discussion Boards for students to provide feedback about the course and to engage further with the material.

We anticipate lectures will typically be prerecorded and should be watched ahead of class sessions. Class sessions will then be used to review learning outcomes and highlights and discussion and more in-depth engagement with the material. Please follow directions in each Canvas module, and also use the discussion boards to ask questions and engage with other students and the material.

Exams: Quizzes and Exam dates/times are shown in the Schedule. We anticipate that all exams will be administered through Canvas, and will be given during the regular class time. The final exam will be on Thursday June 11 at 9:30 – 11:20 a.m..

Evaluation: Exams and quizzes sum to 500 total points as follows:

- a. Two non-cumulative 150-point midterm exams (May 3 and May 29)
- b. Quizzes (on days with an * in the schedule) summing to 50 points. A total of 7 quizzes will be given, of which the top 5 will count. Quizzes will be administered from 8:00 – 8:10 a.m. on quiz days.
- c. A 150-point *cumulative* final exam (12 pm on Wed June 12). It will cover topics from the whole term, with an emphasis on the newer material not covered in the previous mid-term.

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Grade scale

Grades will be assigned according to the following scale*:

B+ 80-85 ; C+ 65-70 ; D+ 50-55
A 90-100 ; B 75-80 ; C 60-65 ; D: 45-50 ; F: <40
A- 85-90 ; B- 70-75 ; C- 55-60 ; D- 40-45

*The cutoffs may be lowered but will not be raised.

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 understand of how they relate to the human health
- Communicate (through writing) key concepts of biochemistry
- Understand and apply elementary concepts of biochemistry to relevant, specific problems.

Learner Expectations

- Advance preparations, including video/reading assignments before class sessions;
- Studying throughout the term rather than only at the last minute;
- Asking questions about concepts/processes that the student does not understand shortly after the material is covered rather than only shortly before exams;
- Recognition that understanding and mastering the complexities of biochemistry requires considerable background prior to the class, a considerable information acquired in the class, and considerable time and effort to put these together.
- Patience with glitches and changes in course delivery that are bound to happen along the way as we all navigate this new-to-all-of-us remote delivery of on-campus courses

Exam policies

Makeup exams. 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.

Regrade requests. Regrades of specific portions of exams will be performed when a student makes a request *in writing* within one week of the day the exam is returned to the class as a whole. After that period, exam grades will not be changed. Requests must explain for each problem or concern what the student thinks was incorrect about the original grading. Requests the instructors cannot to read will be denied.

Academic Honesty. Students are expected to do their own work and not cheat in any way. The use of cell phones, PDAs or electronic devices other than simple calculators, are strictly forbidden during exams. Additionally, you may not leave the exam room for any reason without expressed permission of the proctor.

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University Policies

Reach Out for Success: University students encounter setbacks from time to time. If you encounter difficulties and need assistance, it's important to reach out. Consider discussing the situation with an instructor or academic advisor. Learn about resources that assist with wellness and academic success at oregonstate.edu/ReachOut. If you are in immediate crisis, please contact the Crisis Text Line by texting OREGON to 741-741 or call the National Suicide Prevention Lifeline at 1-800-273-TALK (8255)

Statement Regarding Students with Disabilities: Accommodations for students with disabilities are determined and approved by Disability Access Services (DAS). If you, as a student, believe you are eligible for accommodations but have not obtained approval please contact DAS immediately at 541-737-4098 or at <http://ds.oregonstate.edu>. DAS notifies students and faculty members of approved academic accommodations and coordinates implementation of those accommodations. While not required, students and faculty members are encouraged to discuss details of the implementation of individual accommodations.

Student Conduct Expectations link: <https://beav.es/codeofconduct>

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

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.*

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BB 350 Class Schedule - Spring Term 2020

* = Quizzes

	Date	Lecturer	Topics	Text Reading
Week 1	Tue 3/31	Karplus	Introduction	pp. 10-14 (Ch1) + 25-30 (Ch3)
	Wed 4/01	Karplus	Water	pp. 14-16 (Ch1) + 50-52 (Ch3)
	Thu 4/02	Karplus	Buffers	pp. 15-21 (Ch1)
	Fri 4/03	Karplus	Amino Acids/Peptides	pp. 42-51 (Ch3)
Week 2	Tue* 4/07	Karplus	Proteins: Structure	pp. 42-51 (Ch3)
	Wed 4/08	Karplus	Proteins : Function (Myoglobin and Hemoglobin)	pp. 51-56 (Ch3)
	Thu 4/09	Karplus	Protein Purification	pp. 212-222 (Ch9)
	Fri 4/10	Karplus	Enzymes I	p. 80-84, 87-91 Ch4
Week 3	Tue* 4/14	Karplus	Enzymes II	p. 85-87, 91-95 Ch4
	Wed 4/15	Karplus	Enzyme Controls	pp. 96-100 (Ch4)
	Thu 4/16	Karplus	Enzyme Controls	pp. 96-100 (Ch4)
	Fri 4/17	Karplus	Membranes	pp. 70-78 (Ch3)
Week 4	Tue* 4/21	Karplus	Membranes	pp. 70-78 (Ch3)
	Wed 4/22	Karplus	Nucleic Acids	pp. 58-64 (Ch3)
	Thu 4/23	Karplus	DNA synthesis I	pp. 101-111 (Ch5)
	Fri 4/24	Karplus	DNA Synthesis II	pp. 111-116 (Ch5)
Week 5	Tue* 4/28	Karplus	RNA Synthesis	pp. 117-129 (Ch5)
	Wed 4/29	Karplus	RNA Synthesis	pp. 129-132 (Ch5)
	Thu 4/30	Karplus	Review session	
	Fri 5/01	Karplus	Exam 1	
Week 6	Tue 5/05	Pérez	Protein Synthesis I	Ch. 5 (132-139)
	Wed 5/06	Pérez	Protein Synthesis II	Ch. 5 (132-139)
	Thu 5/07	Pérez	Protein Synth. III & Protein degradation	Ch. 9 (132-139)

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	Fri 5/08	Pérez	Biotechnology	Ch. 9 (224-227)
Week 7	Tue [*] 5/12	Pérez	Viruses, Cancer, and Oncogenes/Immune System & Energy	Ch. 2 (24-32)
	Wed 5/13	Pérez	Carbohydrates	Ch. 3 (64-71)
	Thu 5/14	Pérez	Energy and Metabolism	Ch. 5 (129-138)
	Fri 5/15	Pérez	Glycolysis I	Ch. 6 (144-150)
Week 8	Tue [*] 5/19	Pérez	Glycolysis II	Ch. 6, 7 (150-153; 173-181)
	Wed 5/20	Pérez	Carbohydrate Storage/Citric acid Cycle I	Ch. 6, 7 (150-153; 173-181)
	Thu 5/21	Pérez	CAC II and Electron Transport chain (ETC)	Ch. 2, 6, 7 (32-35;150-153) (173-181)
	Fri 5/22	Perez	Oxidative Phosphorylation	Ch. 2 (32-35)
Week 9	Tue [*] 5/26	Pérez	Review Session	
	Wed 5/27	Pérez	Exam 2	
	Thu 5/28	Pérez	Photosynthesis I	Ch. 2, 7 (35-38; 181-184)
	Fri 5/29	Pérez	Photosynthesis II	Ch. 2, 7 (35-38; 181-184)
Week 10	Tue 6/02	Pérez	Lipid metabolism I	Ch. 6 (157-171)
	Wed 6/03	Pérez	Lipid metabolism II	Ch. 6 (157-171)
	Thu 6/04	Pérez	Nitrogen Metabolism	Ch. 7 (184-194)
	Fri 6/05	Pérez	Nitrogen Metabolism II	Ch. 7 (184-194)
	Thu 6/11 at 9:30 – 11:20 a.m.		Comprehensive Final Exam	