

BIOCHEMISTRY 302.951

Course Syllabus: 2021 Summer Session Term 2

- Outline:** Metabolic reactions of lipids, steroids, amino acids and nucleotides.
Biochemistry of replication, transcription and translation.
- Lectures:** Mon, Wed, Fri 10:00 am - 1:00 pm **online** (Zoom accessible via Canvas)
All lectures will be live and recorded. Recordings will be available after classes.
- Textbook:** *Lehninger, Principles of Biochemistry (7th edition)*. Nelson, D. L., Cox, M. M.,
Freeman and Company 2017.
- Instructor:** Dr. Evgeniy Panzhinskiy
Office hours will be held via Zoom
<https://ubc.zoom.us/j/5368108884?pwd=QnJQbThCZGJKMFh5cys1bmtiR2xZZz09>
Office hours: TBD
E-mail: epanzhin@mail.ubc.ca
- Key Dates:** Midterm: **TBA** – online via Canvas
Final exam: **TBA** (as per final exam schedule) – online via Canvas
- Note: Exams will be administered via Canvas. Students must have a web camera on their computers for the purpose of exams.*

Assessments: Midterm 50% This exam covers all material up to the midterm

Topics included but not limited to: Lipids, Fatty Acid Oxidation and Synthesis, Ketone Bodies, Cholesterol Synthesis and Lipid Transport, Digestion of Dietary Proteins, Protein Turnover, Amino Acid Catabolism (Urea cycle, Fates of Carbon Skeletons), Molecules derived from amino acids, Amino Acid Biosynthesis and Integration of Metabolism.

Final Exam 50% This exam covers all material after the midterm

Topics included but not limited to: Nucleotide Metabolism; DNA structure, Genes, Chromosomes and Chromatin Structure, DNA Replication and Repair, PCR, Transcription and RNA processing, Ribosomes and Translation.

Course Website: <https://canvas.ubc.ca/> gives the students access to all slides shown in class, lecture notes, as well as voluntary reading assignments and problem sets. Students should also sign up for Piazza discussion board to use it for discussion pertaining class material.

Tutorials: Tutorials will begin the second week of classes. Tutorials will be run online by teaching assistants every **Monday 3:00-3:50 pm PST** starting January 18th using Collaborate Ultra. Recordings of the tutorials will be available on Canvas. Problem sets for tutorials will be uploaded to Canvas at the end of each week.

Teaching Assistants: TBA

Learning Outcomes:

To successfully complete the BIOC302 course students are expected to:

- Know and recognize the structures of key intermediates related to metabolism of fatty acids, amino acids and nucleic acids.
- Understand the chemical bases of fundamental metabolic processes.
- Develop capacity to analyze and solve biochemical problem sets on the field of metabolism of fatty acids, amino acids and nucleic acids.
- Be able to synthesize the knowledge of biochemistry and apply it to answer questions related to human health and biotechnology.

Expectations: Both prescribed examinations – Midterm Exam and Final Exam are mandatory. Students who miss the midterm or final examination will have zero recorded as their mark for that exam. Students who miss an examination or are unable to complete other tests or graded work because of medical, emotional or other problems have to follow the procedures for requesting "Academic Concession" [see UBC Calendar]. An inconvenient examination timetable is absolutely not grounds for deferring an examination in BIOC302. Deferred examinations necessitated by health considerations for reasons that are completely out of the control of the student will be written on a date set by the instructor. The Department will not schedule make-up examinations for any student who does not notify his or her dean and does not provide appropriate documentation **within 5 days** of the exam in question. Students without appropriate medical excuses for missing any examination will have zero recorded as their mark for that exam.

Students should not make any plans in April until the definitive final exam schedule has been posted, as preliminary schedules are often changed. April examinations are April 18 to April 29 (inclusive). Note that Saturdays are included in the exam schedule.

A note about the midterm exam: *If you have a scheduling conflict between an evening midterm and another course, work, or intramural sports; you should contact Dr. Panzhinskiy at the beginning of the term. Do **NOT** leave this to the last minute! Students reporting a potential conflict a day before a midterm exam will be unlikely to get deferral status.*

Respect for diversity:

It is our intent that students from all diverse backgrounds and perspectives be well-served by this course, that students' learning needs be addressed both in and out of class, and that the diversity students bring to this class be viewed as a resource, strength and benefit. We intend to present materials and activities that are respectful of diversity: gender identity, sexuality, disability, age, socioeconomic status, ethnicity, race, nationality, religion, and culture. We aim to foster a climate within the (virtual) classroom where students of diverse backgrounds and identities feel comfortable sharing their opinions and experience with varied topics throughout the class. We (like many people) are still learning about diverse perspectives and identities. If something was said in class (by anyone) that made you feel uncomfortable or if you observe a situation where someone else is made to feel uncomfortable, please contact the course instructors. This includes concerns about any class-related interactions that lead to feelings of exclusion or marginalization. We welcome and encourage your feedback on how we can better cultivate a sense of inclusion within our course. Please refer to the following link for UBC Student Guidelines for Respectful Online Conduct:

<https://equity.ubc.ca/resources/student-guidelines-for-respectful-online-conduct/>

Land acknowledgement:

UBC's Point Grey Campus is located on the traditional, ancestral, and unceded territory of the xwməθkwəyəm (Musqueam) people. The land it is situated on has always been a place of learning for the Musqueam people who, for millennia, have passed on their culture, history, and traditions from one generation to the next on this site.

Academic honesty:

According to university policy, students are responsible for learning what constitutes acceptable and nonacceptable academic conduct and applying those criteria to their work. Students should be aware that standards at the University of British Columbia may be different from those at secondary schools and other universities. The following link includes an extensive list of what constitutes academic misconduct:

<http://www.calendar.ubc.ca/vancouver/index.cfm?tree=3,54,111,959>. Included within this list are:

1. the use or possession in an examination of any materials (including devices) other than those permitted by the examiner.
2. the use, possession, or facilitation of unauthorized means to complete an examination (e.g. receiving unauthorized assistance from another person, or providing that assistance).
3. dishonest practices that breach rules governing examination or submissions for academic evaluation.
4. Impersonating a candidate at an examination or other evaluation, facilitating the impersonation of a candidate, or availing oneself to the results of an impersonation.

Disciplinary measures arising from academic misconduct can range from a letter of reprimand, a zero on the assignment or course, to suspension or expulsion from the university. If you are ever in doubt regarding what constitutes academic misconduct, please contact your course instructor as soon as possible.