

GENERAL BIOCHEMISTRY (BB_451_X001_F2017)

GENERAL BIOCHEMISTRY (BB 451/551)

Syllabus

Instructor: [Dr. Kevin Ahern \(Links to an external site.\)](#)[Links to an external site.](#) (I prefer to be called Kevin)

Office – ALS 2145

Office Hours – Feel free to call me anytime.

Contact: ahernk@onid.orst.edu or phone 541-737-2305

Meeting Times

Academic year – all four terms 2017-18

EXAMINATIONS (must be taken in appropriate time windows announced on Schedule page - Web Materials link in **Announcements**)

(I) Exam #1 – announced on Schedule page link

(II) Exam #2- announced on Schedule page link

(III) Final Exam - announced on Schedule page link

COURSE PREREQUISITES

OSU courses - CH 331 and CH 332 or CH 334, CH 335, and CH 336. Non-OSU organic chemistry credit is perfectly fine, though you will need to contact Kevin (click [HERE](#)) to get assistance in registering.

LEARNING RESOURCES

1. Primary Textbook: *Biochemistry Free For All* - download [HERE \(Links to an external site.\)](#)[Links to an external site.](#) (Note that version 1.2 was released 9/1/17. If you downloaded prior to then, you need to update to the new version)
2. Instructor notes and audio/video of lectures will be available through the class web site (see **Announcements** page)
3. Emailed questions to the instructor are welcomed.

TOPICS COVERED

Pages in Biochemistry Free For All

Citric Acid Cycle	549-559
Lipids and Membranes	228-248, 268-280

Membrane Transport	281-334
Electron Transport	410-465
Oxidative Phosphorylation	563-566, 590-610
Lipid & Steroid Metabolism	566-589
Fatty Acid Metabolism	566-589
Nucleotide Metabolism	660-689
DNA Replication/ Repair	703-744
Transcription	747-775
Protein Synthesis	778-798
Gene Regulation	802-822
Nitrogen Metabolism	616-655

GRADING

Course Points Distribution - Exam 1 (30%), Exam 2 (30%), Final Exam (40%), There is no extra credit possible beyond the occasional questions asked on exams and therefore I do not (and in fact cannot) take improvement during the term into consideration in assigning grades. No fixed grading scale will be used to assign letter grades and no fixed numbers of letter grades are set. Since there is no fixed grading scale (90/80/70/60, for example) grades are therefore "curved," since this is what "curved" means. If you ask if grades in the course are curved, you will lose points. If you ask for how to earn extra credit, you will lose points.

Grades will be assigned on groupings as determined by the instructor at the conclusion of the course. In courses graded on a 90-80-70-60 basis, it is possible to calculate how many points you need to make on the final to make a desired grade. It is not possible to do this for courses like this one where grades fluctuate as the average on the exam fluctuates. You are in MUCH better shape being graded the way I grade than you are in a 90-80-70-60 system. It is your responsibility to check the online grade distribution prior to asking any question about grades. Failure to do so will result in a loss of points. Undergraduates will be evaluated and graded separately from graduate students.

COURSE POLICIES

I love teaching this course and enjoy discussion and meetings with you. I know that the subject of biochemistry strikes terror in the hearts of many, so I see my role partly as helping you to overcome that fear in order to do well. I will do everything I can to help you learn more of this exciting subject and help you overcome your fears of it. Some of the most rewarding experiences I have had in teaching this class are helping students in this very way. I expect you to be involved and responsible for your own education, as much as possible. Students who ask questions that are answered in the syllabus are not being responsible. The aim of this statement is not to discourage students from discussing

their standing in the class, but rather to have students participate more fully in their own education. I will gladly discuss any student's grade as it stands at any time in the course, but students need to use resources available to them to their fullest. Similarly, students need to consult exam keys and relevant videos and transparencies before asking questions or requesting regrades.

Students taking examinations are not allowed to use a calculator, books, or notes of any kind. Other than a pencil/pen, no other materials are allowed for student use on exams. The sole exception to this is that on the final exam ONLY, students are allowed to bring with them and use one note card with information on it handwritten by the student. The notecard must be no larger than 5x8 inches and printers may not be used to make it. All items on the card MUST be handwritten or hand-drawn and you do not have to get the card from me.

EXAM POLICIES

Preparing makeup exams requires a significant effort. There will be three exams given in this course (including the final). The final will be comprehensive. Excused absences will not be given for missing exams due to airline reservations, routine illness (colds, flu, stomach aches), or other common ailments. Excused absences will almost never be given after the absence has occurred. Students therefore must notify the instructor if they encounter difficulties BEFORE the exam occurs. If I decide your reason for missing an exam is valid, I might allow you to take a makeup exam. 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 place.

It is the responsibility of each student to check that their exam has been properly graded. If errors are made, or if the student feels that more points should have been awarded for a particular question, students must write a CLEAR explanation stating their case. Requests for regrading must be made in writing within 3 school days after the examination is made available to the class. Failure to follow these instructions will result in automatic denial of the request. Frivolous requests involving “fishing for points” will result in loss of points.

Students are also responsible for taking no longer than the allotted time for exams - 50 minutes for midterms and 110 minutes for finals (unless otherwise noted). Running over the allotted time for exams will result in loss of one point for every minute that the allotted time is exceeded.

Students in this course are not allowed to use calculators. Exams are structured so that you will not need one. No notes, books, cell phones, or other devices are allowed on the midterm exams. You are allowed to use one blank sheet of paper provided by your proctor. If you are using Proctor U, they require that you use an erasable small whiteboard in place of a blank piece of paper.

On the final exam ONLY, students are allowed to use one 5x8 inch note card with HANDWRITTEN notes on it (both sides). Note cards with material from a printer are not allowed. Students in this course do not have to get the card from me.

One of the most common problems students have with deadlines for exams arise from waiting to the last possible hour to take the exam within the exam window and then having a problem, such as a flat tire, catching a cold, or having a technical problem. I am generally not sympathetic to last minute problems. The best way to avoid such problems is to schedule exams earlier in the time window so that if something unexpected happens, you have plenty of time to request a fix. Further, telling me about a problem AFTER the window closes means I will be unable to do anything about it.

HOW TO STUDY FOR THIS CLASS - This is a frequent question asked by students. The answer is that there are no secrets or “tricks”. Everyone has their own way of studying. Everyone has their own approach and any approach I recommend may likely be different from what will work for you. This class isn't really any different from any other you may take. What works for you for other classes is what I recommend using here. That said, as it says in the lectures, exams are based on what I say in class. Focus your attention on what I talk about. Learn the principles of what I talk about as opposed to memorizing the "facts" of what I say. Good luck in your studies :-).

REGISTRATION DEADLINES

I expect students will meet all deadlines as appropriate for withdrawing from the class, should that be necessary. I do not routinely approve petitions to make changes after deadlines have passed, except in extraordinary circumstances. The deadline for dropping classes (no grade) during the academic year (fall, winter, spring terms) is the second week of class. The deadline for withdrawing from a class (grade of W) is the seventh week during the academic year. If you do not withdraw by Friday of the seventh week of the term, you will receive a grade in the course. Summer deadlines are different and students are responsible for confirming such deadlines with the [OSU Registrar. \(Links to an external site.\)](#)Links to an external site.

POLICY ON INCOMPLETES

A grade of I is appropriate when 1) a course requirement has not been completed due to circumstances beyond the control of the student and 2) at least half of the work for the course has been completed at a level of C- or better. For medical problems that prohibited the student from fulfilling a requirement of the course, a note from a doctor is required. The request may be supplied without the note, and the request (if acceptable) will typically be granted, conditional on the note being provided later. For other circumstances, supporting evidence, such as a note from an advisor, will be helpful to the petitioner's case.

The following is a list of reasons that are **not** acceptable:

- The course proved to be more time-consuming or difficult than expected.
- Work in other courses ended up taking too much time.
- Work or travel associated with a job ended up interfering with course work.

- Time conflicts prohibited contact with the instructor or TAs during office hours,
- The student misunderstood the requirements or grading schemes of the course.
- The student wishes to avoid a low grade.
- The student wishes to retake the course at a later date

LEARNER OUTCOMES

The intention of the course is for students to:

1. Acquire the technical language used to communicate biochemistry information and to use that language to describe biochemical processes, such as metabolism, and molecular biology.
2. Recall key elements of basic biochemistry principles, including metabolic pathways, molecule names, molecular structures (as noted), respiratory control, enzymes, and the central dogma.
3. Extrapolate information based on the material presented
4. Communicate (through writing and speaking) key concepts relevant to biochemistry
5. Understand and apply general concepts of biochemistry to relevant, specific problems.
6. Predict the direction of flow of genetic and metabolic information from an understanding of the control mechanisms and energy considerations of each.

LEARNER EXPECTATIONS

1. Advance preparation
2. No last minute studying
3. Questions to answer concepts/processes that the student does not understand BEFORE it is too late.
4. 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.

GENERAL OSU AND DEPARTMENTAL 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 must be registered with the Office of Services for Students with Disabilities."

The Department of Biochemistry/Biophysics follows the university policies on student conduct. These can be found at

<http://studentlife.oregonstate.edu/studentconduct/offenses-0>

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.

Statement Regarding Students with Disabilities: Accommodations are collaborative efforts between students, faculty and Disability Access Services (DAS). Students with accommodations approved through DAS are responsible for contacting the faculty member in charge of the course prior to or during the first week of the term to discuss accommodations. Students who believe they are eligible for accommodations but who have not yet obtained approval through DAS should contact DAS immediately at 541-737-4098.

Source - <http://ds.oregonstate.edu/facultyguidelines#before>