

THE MOLECULES OF LIFE (BB_100_400_S2018)

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BB 100 Molecules of Life

Syllabus for Ecampus

MEETING TIMES

Academic Year (all four terms), 2017-2018

INSTRUCTOR INFO

Dr. Kevin Ahern

Office ALS 2145

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

COURSE PREREQUISITES

None

LEARNING RESOURCES

1. Textbook: Biotechnology for Beginners by Arnold L. Demain
2. Instructor notes, practice exams, and audio/video of lectures (when technical problems do not exist) will be available through the Schedule page link on the Announcements page.
3. Individual meetings/phone calls/ emails with the instructor are encouraged.

WEB MATERIALS

The class Web page will be active through Blackboard and will contain the schedule of topics covered in the class.

Topics Covered

Textbook pages

1. A Taste of Biotechnology 1-27
2. Enzymes 29-55
3. The Wonders of Recombinant DNA 57-93
4. Cellular Factories 95-137
5. From Viruses to Vaccines 139-167
6. Biotechnology and the Environment 169-195
7. Green Biotechnology 197-233

8. Cloning and Transgenic Organisms 235-261
9. Health and Biotechnology 263-291
10. Genomics 293-333

Ecampus students should be aware that videos are from a previous term. Consequently, dates, as discussed in the videos may not match dates of the course. The correct dates for all matters in the course are given on the Schedule page.

EXAMINATION INFO

(0) Progress Report Quiz - Announced in Assignments. Due by date noted on Assignments page

(I) Exam #1: Announced on the Schedule page

(II) Exam #2- Announced on the Schedule page

(III) Final Exam (comprehensive) - Announced on the Schedule page

EXAM POLICIES

Ecampus exams are taken online on Canvas and require proctoring. Proctors must be arranged with and approved by ecampus at the beginning of the term. Contact them at http://ecampus.oregonstate.edu/services/proctoring/finding_proctor.htm or at 800-667-1465 or 541-737-9204. It is required that exams be taken within 24 hours of the posted time of the exam (before or after). Failure to follow these instructions will result in voiding of the exam and assignment of an 'F' grade.

Makeup exams will be given only for absences excused by the instructor in advance of the exam. Excused absences will not be given for airline reservations, routine illness (colds, flu, stomach aches), or other common ailments. Excused absences will not be given after the absence has occurred, except under very 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 within three 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.

Makeup exams 1) are of a different format from the classroom exam and 2) are designed NEVER to be easier than the classroom 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 room.

Mid-term exams are strictly limited to 50 minutes in length. The final exam is strictly limited to 110 minutes in length. Students who do not finish exams in those timeframes will lose one point for every minute they exceed the time limits.

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 :-).

GRADING

Course Points Distribution - Progress Report Quiz (10%) Exam 1 (25%), Exam 2 (25%), Final Exam (40%).

Note that the Progress Report Quiz is submitted through Canvas and does not require a proctor. The three exams all require a proctor. 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 the definition of what "curved" means. Grades will be assigned on groupings as determined by the instructor at the conclusion of the course. Approximate letter grades will be given during the term.

If your grade is low and you wonder how to improve it, the answer is to improve your performance against the average compared to what you did previously. Since the average varies with each exam, it means you need to do your best. Because grades are assigned on a “curve,” there is no way for me to tell you “how many points” you need to get a desired grade. This is only possible for grading schemes that use fixed percentages – 90% = A, 80% = B, etc.

LETTERS OF REFERENCE

I am frequently asked to write letters of reference for students from the class. Since I must know a student personally to write a letter of reference, it is almost never possible for me to do this in the e-campus. If you are curious, I do have a written policy for letters of reference – <http://oregonstate.edu/dept/biochem/hhmi/ahernletters.html>

COURSE POLICIES

Please note the date and time of the class exams. Reading and studying the assigned material before the lecture date is essential for success. Waiting to the last minute to study or prepare is a prescription for disaster.

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 basic technical language used in modern biotechnology
2. Recall key elements of basic biotechnology principles, including cell types, enzymes, relevant molecules, historical information, viruses, cloning, and genomics
3. Communicate (through writing) key concepts relevant to biotechnology
4. Understand and apply simple concepts of biotechnology to relevant, specific problems.
5. Gain perspectives of how biotechnology has in the past and will in the future impact our lives

LEARNER EXPECTATIONS

1. Advance preparations, including reading relevant information before lectures are given.
2. Avoid 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 should 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://oregonstate.edu/admin/stucon/regs.htm>.

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

A more thorough listing of student conduct and community standards that students are responsible for can be found at <http://studentlife.oregonstate.edu/studentconduct/offenses-0>

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>

Course Summary:

Date	Details
Wed May 2, 2018	 Exam 1 https://oregonstate.instructure.com/courses/1673217/assignments/7240569 due by 5pm
Wed May 23, 2018	 Exam 2 https://oregonstate.instructure.com/courses/1673217/assignments/7240746 due by 5pm
Wed Jun 13, 2018	 Final Exam https://oregonstate.instructure.com/courses/1673217/assignments/7240851 due by 5pm