

BB 100 Molecules of Life

INSTRUCTOR INFO **Dr. Kevin Ahern**

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COURSE PREREQUISITES

None

LEARNING RESOURCES

1. Textbook: Biotechnology for Beginners by Arnold L. Demain
2. Instructor notes and audio/video of lectures are available through the Course Schedule page link [HERE](#)
3. Individual meetings/phone calls/ emails with the instructor are encouraged.

WEB MATERIALS

The class Web page will be active through Canvas 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 sometimes used 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

- (I) Exam #1: Announced on the [Access Course Materials Page](#) on Canvas
- (II) Exam #2- Announced on the [Access Course Materials Page](#) on Canvas
- (III) Final Exam (comprehensive) - Announced on the [Access Course Materials Page](#) on Canvas

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 [HERE](#)

or at 800-667-1465 or 541-737-9204. It is required that exams be taken within the time “window” shown on the Web page. Failure to follow these instructions will result in voiding of the exam and assignment of an ‘F’ grade.

VERY IMPORTANT - Canvas operates differently from Blackbaord in how it manages exams. It will NOT warn you that you are running out of time on an exam. It is therefore essential that you monitor your time yourself, as you will be penalized one point for every minute you go over your allotted time. For mid-term exams, this is 50 minutes and for the final exam, this is 110 minutes. Please note if you have permission from DAS to have extra time allotted for your exam that this may not show up in Canvas, but will be allowed for AFTER the exam is done (by me). Everyone should note that if issues arise during the taking of an exam, ecampus MUST be notified before your time for taking an exam is over. No adjustments can be made after your time for taking an exam is over. For everyone using Proctor U, please note - 90% of the problems with Proctor U arise from disconnections due to using WiFi. If you are taking your exam from home, use a wired connection. Proctor U or ecampus can tell you how to do this from your router.

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/email 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.

3. You did not get the proctor approved and/or exam arrangements made in time to take the exam.
4. You waited to the last minute to take the exam and the window to take the exam expired.

GRADING

Course Points Distribution - Exam 1 (30%), Exam 2 (30%), Final Exam (40%). There is no extra credit possible 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. Undergraduates will be evaluated and graded separately from graduate students.

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.

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
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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 [HERE](#)

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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.”

For those interested in confirming this information, you can find it on the website at <http://oregonstate.edu/admin/aa/apaa/syllabus-minimum-requirements>