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# BB314

## CELL AND MOLECULAR BIOLOGY

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2019W (JAN – MAR), SECTION 400

### INSTRUCTOR AND COURSE DETAILS

**LECTURES/DISCUSSION:** Online      **CREDIT HOURS:** 4

**INSTRUCTOR:** Dr. Lauren Dalton (Dept. of Biochemistry and Biophysics)

**E-MAIL:** [lauren.dalton@oregonstate.edu](mailto:lauren.dalton@oregonstate.edu).

**COMMUNICATION:** For questions about the course content, please post your messages on the discussion forum (can be accessed through Canvas). For personal matters that cannot be discussed please email me through Canvas e-mail or at I will reply to course-related questions and email within 24 hours except weekends and holidays.

### COURSE DESCRIPTION

This course explores the fundamental concepts of prokaryotic and eukaryotic cell biology and emphasizes cell structure and function at the molecular level. It can be broken into 3 subcomponents that go from small to big. We start with the molecules that make up cells, followed by the structure/function of different cellular components. Finally, we finish with how cells interact with each other and their environments.

**PRE-REQS:** ((BI 211 or BI 211H) and (BI 212 or BI 212H) and (BI 213 or BI 213H) and (CH 331\* or CH 334\*))

\*Course may be taken concurrently

### COURSE LEARNING GOALS

1. Participate and actively contribute to a community of learning.
2. Define scientific terms and correctly use scientific vocabulary in communicating information in cell and molecular biology.
3. Demonstrate understanding of the relationship between structure and function, at every level of cell biology (from individual macromolecules to the cellular level).
4. Integrate the concepts of cell and molecular biology to assess specific situations and problems and propose explanations/solutions.
5. Articulate the importance of cell biology within the context of the 'bigger picture' of everyday life.

### COURSE CREDIT HOURS

This course combines approximately 12 hours/week of instruction, online activities, and assignments for 4 credits.

Students are expected to participate in all graded discussions and homework. While there is great flexibility in online courses, this is not a self-paced course.

## COURSE CONTENT

### COURSE SCHEDULE

Week	Date Range	Topics	Learning Activities	Other
1	Jan 7-13	Introduction	Week 2 Prep Quiz Online Discussion Week 1 Homework	
		Genes and Genomes		
2	Jan 12-20	DNA and Chromosomes	Week 3 Prep Quiz Online Discussion Week 2 Homework	
		DNA Replication		
		Replicative DNA Repair		
3	Jan 19-27	Non-replicative DNA Repair	Online Discussion Week 3 homework	
		Transcription		
		Regulation of Gene Expression		
4	Jan 26-Feb 3	Protein Structure and Regulation	Week 5 Prep Quiz Online Discussion Week 4 Homework	<b>W-F Exam 1*</b>
5	Feb 2-10	Cell Compartments	Week 6 Prep Quiz Online Discussion Week 5 Homework	
		Protein Sorting		
6	Feb 9-17	Energy Transduction	Online Discussion Week 6 Homework	
7	Feb 16-24	The Cytoskeleton	Online Discussion Week 7 Homework	<b>W-F Exam 2**</b>
8	Feb 24- Mar 3	Cell Signaling	Week 9 Prep Quiz Online Discussion Week 8 Homework	
9	Mar 2-10	Cell Cycle	Online Discussion Week 9 Homework	
10	Mar 9-17	Cancer	Online Discussion Week 10 homework	
<b>Finals</b>	<b>Mar 18-20</b>			<b>M-W Final Exam***</b>

### Important Exam dates (please note that all times are Pacific Standard Time)

\* Exam 1 will be available between 8 a.m., Wednesday, Jan 30 and 5 p.m., Friday, Feb 1.

\*\* Exam 2 will be available between 8 a.m., Wednesday, Feb 20 and 5 p.m., Friday, Feb 22.

\*\*\* The Final exam will be available between 8 a.m., Monday, Mar 18 and 5 p.m., Wednesday, March 20.

*Please make sure to schedule your exams so that you have the full time allowed to take the test.*

## COURSE MATERIALS

### COURSE WEBSITE

This course will be delivered *via* Canvas where you will interact with your classmates and with your instructor. Within the course Canvas site, you will access the learning materials, such as the syllabus, class discussions, assignments, projects, and quizzes. To preview how an online course works, visit the [Ecampus Course Demo](#). For technical assistance, please visit [Ecampus Technical Help](#).

### TEXTBOOK

There is no required textbook for this course. However, you may find Essential Cell Biology, 4<sup>th</sup> edition, Alberts, B. et al, Garland Science, 2012, or Essential Cell Biology, 3<sup>rd</sup> edition, Alberts, B. et al, Garland Science, 2009, to be an accessible and helpful resource. As an alternative I have also provided links to two free textbooks relevant to the course. In addition to the textbooks, study guides and other material relevant to the class will

be posted on Canvas. The class schedule and exam dates for the quarter are also posted at this site. *It is the student's responsibility to check Canvas regularly for announcements and information pertaining to the course.*

## EVALUATION OF STUDENT PERFORMANCE

The course grade is based upon the following for BB314

- Midterms (2) 20% each
- Comprehensive Final Exam 30%
- Prep Quizzes 6%
- Homework assignments 12%
- Discussion participation 12%

**Total** 100%

These components are explained below in greater detail.

### LETTER GRADE

Grade	Percent Range
A	85-100
A-	80-85
B+	77-79
B	73-76
B-	70-72
C+	67-69
C	63-66
C-	60-62
D+	57-59
D	53-56
D-	50-52
F	<50

### EXAMS

This course requires that you take exams under the supervision of an approved proctor.

There are three exams throughout the term, 2 midterms and a final. These exams will be primarily short answer style questions and rely on your ability to articulate what you know and emphasize linking topics and concepts from throughout the term together. Some questions will require you to be able to analyze data and make conclusions based on techniques we learn in the class. The final exam will be primarily concerning the material from the second exam onward, but it is considered comprehensive and will incorporate questions from all aspects of the course.

**Proctoring:** Proctoring guidelines and registration for proctored exams are available online through the Ecampus testing and proctoring website. It is important to submit your proctoring request as early as possible to avoid delays. **Failure to set up proctoring will result in not being able to take the test and a zero on the exam. Exams missed due to failure to set up proctoring cannot be made up.**

**Makeup Exams:** Makeup exams will be given only for missed exams excused in advance by the instructor. Excused absences will not be given for airline reservations, routine illness (colds, flu, stomach

aches), or other common ailments. Excused absences will generally not be given after the absence has occurred, except under very unusual circumstances.

**Exam Time Limits:** Exams in this class are timed and Canvas keeps track of the time. *Please note that Canvas will automatically submit your exam when time is up.*

### PREP QUIZZES

There are 5 prep Quizzes throughout the term which are open book and have unlimited time. The purpose of the quiz is to help students brush up on topics they have learned prior to BB 314 that are relevant to the following material. Reviewing topics learned in introductory classes is one of the most powerful ways for students to enhance their learning in this course. The topics on the quiz, as well as resources that can be used for review will be provided. *Students may take each quiz twice*, with the highest score used in computing their quiz grade. This allows students to identify the things that they did not know the first time and review the material again before a second attempt.

### HOMEWORK

Homework assignments will be posted each week. Instructions for completing the assignment and the due date will be provided with the assignment. Only assignments that are completed according to the instructions and submitted to Canvas by the due date are eligible for the points. *Assignments will not be accepted after the deadline for submission.* Internet connection failures or computer problems are not an acceptable excuse for failing to submit assignments. Because you are taking an online course, you must make sure that you have a reliable internet connection for your work. If you fail to submit an assignment on time, you will lose all points for that assignment. However, I will take the best 9 out of 10 assignments to calculate your overall grade. This will allow you to miss one for any reason without penalty.

### DISCUSSION PARTICIPATION

The discussion board (access through Discussions on the left-most panel in Canvas) will have two distinct parts.

The Q & A board is for asking questions that are of a logistical nature, e.g., when exam grades will be available. Posts on this part of the discussion board would, naturally, only be necessary when you have such questions, and these posts do not count for your grade.

The Weekly Discussion Board is for student posts relating to the course content. You will receive more detailed instructions on what your participation in this part of the discussion board should look like (check the discussion board on Week 1). Participation in this part of the discussion board is **required and graded**. Students are expected to participate in all graded discussions on a regular basis. While there is great flexibility in online courses, this is not a self-paced course. You will need to participate in our discussions on *at least* two different days each week, with your first post for the week due no later than Wednesday evening, and a second post due by the end of each week. You are, of course, welcome to post more often than this, but two posts are the minimum requirement per week.

### ADDITIONAL COURSE POLICIES

#### LATE WORK

Late work is not accepted.

#### INCOMPLETES

Incomplete (I) grades will be granted only in emergency cases (usually only for a death in the family, major illness or injury, or birth of your child), and if the student has turned in ~80% of the points possible (in other

words, usually everything but one exam). If you are having any difficulty that might prevent you completing the coursework, please don't wait until the end of the term; let me know right away.

#### **STATEMENT REGARDING STUDENTS WITH DISABILITIES**

Accommodations are collaborative efforts between students, faculty and **Disability Access Services (DAS)** 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.

#### **EXPECTATIONS FOR STUDENT CONDUCT IN THE ONLINE CLASSROOM**

Student conduct is governed by the university's policies, as explained in the **Office of Student Conduct: Information and Regulations**.

Students are expected to conduct themselves in the course (e.g., on discussion boards, email) in compliance with the university's regulations regarding civility. Civility is an essential ingredient for academic discourse. All communications for this course should be conducted constructively, civilly, and respectfully. Differences in beliefs, opinions, and approaches are to be expected. In all you say and do for this course, be professional. Please bring any communications you believe to be in violation of this class policy to the attention of your instructor.

Active interaction with peers and your instructor is essential to success in this online course, paying particular attention to the following:

- Unless indicated otherwise, please complete the readings and view other instructional materials for each week before participating in the discussion board.
- Read your posts carefully before submitting them.
- Be respectful of others and their opinions, valuing diversity in backgrounds, abilities, and experiences.
- Challenging the ideas held by others is an integral aspect of critical thinking and the academic process. Please word your responses carefully, and recognize that others are expected to challenge your ideas. A positive atmosphere of healthy debate is encouraged.

#### **ACADEMIC INTEGRITY**

Students are expected to comply with all regulations pertaining to academic honesty. For further information, visit *Avoiding Academic Dishonesty*, or contact the office of Student Conduct and Mediation at 541-737-3656.

*OAR 576-015-0020 (2) Academic or Scholarly Dishonesty:*

a) Academic or Scholarly Dishonesty is defined as an act of deception in which a Student seeks to claim credit for the work or effort of another person, or uses unauthorized materials or fabricated information in any academic work or research, either through the Student's own efforts or the efforts of another.

b) It includes:

(i) **CHEATING** - use or attempted use of unauthorized materials, information or study aids, or an act of deceit by which a Student attempts to misrepresent mastery of academic effort or information. This includes but is not limited to unauthorized copying or collaboration on a test or assignment, using prohibited materials and texts, any misuse of an electronic device, or using any deceptive means to gain academic credit.

(ii) **FABRICATION** - falsification or invention of any information including but not limited to falsifying research, inventing or exaggerating data, or listing incorrect or fictitious references.

(iii) ASSISTING - helping another commit an act of academic dishonesty. This includes but is not limited to paying or bribing someone to acquire a test or assignment, changing someone's grades or academic records, taking a test/doing an assignment for someone else by any means, including misuse of an electronic device. It is a violation of Oregon state law to create and offer to sell part or all of an educational assignment to another person (ORS 165.114).

(iv) TAMPERING - altering or interfering with evaluation instruments or documents.

(v) PLAGIARISM - representing the words or ideas of another person or presenting someone else's words, ideas, artistry or data as one's own, or using one's own previously submitted work. Plagiarism includes but is not limited to copying another person's work (including unpublished material) without appropriate referencing, presenting someone else's opinions and theories as one's own, or working jointly on a project and then submitting it as one's own.

c) Academic Dishonesty cases are handled initially by the academic units, following the process outlined in the University's Academic Dishonesty Report Form, and will also be referred to SCCS for action under these rules.

## TUTORING

[NetTutor](#) is a leading provider of online tutoring and learner support services fully staffed by experienced, trained and monitored tutors. Students connect to live tutors from any computer that has Internet access. NetTutor provides a virtual whiteboard that allows tutors and students to work on problems in a real time environment. They also have an online writing lab where tutors critique and return essays within 24 to 48 hours. Access NetTutor from within your Canvas class by clicking on the Tools button in your course menu.

## OSU STUDENT EVALUATION OF TEACHING

Course evaluation results are extremely important and are used to help me improve this course and the learning experience of future students. Results from the 19 multiple choice questions are tabulated anonymously and go directly to instructors and department heads. Student comments on the open-ended questions are compiled and confidentially forwarded to each instructor, per OSU procedures. The online Student Evaluation of Teaching form will be available toward the end of each term, and you will be sent instructions via ONID by the Office of Academic Programs, Assessment, and Accreditation. You will log in to "Student Online Services" to respond to the online questionnaire. The results on the form are anonymous and are not tabulated until after grades are posted.

## TECHNICAL ASSISTANCE

If you experience computer difficulties, need help downloading a browser or plug-in, assistance logging into the course, or if you experience any errors or problems while in your online course, contact the OSU Help Desk for assistance. You can call (541) 737-3474, email [osuhelpdesk@oregonstate.edu](mailto:osuhelpdesk@oregonstate.edu) or visit the [OSU Computer Helpdesk](#) online.

## ECAMPUS CONTACT

This course is offered through Oregon State University Extended Campus. For more information, contact:

Web: [ecampus.oregonstate.edu](http://ecampus.oregonstate.edu)

Email: [ecampus@oregonstate.edu](mailto:ecampus@oregonstate.edu)

Tel: 800-667-1465